FINANCIAL TIMES

World Business Newspaper

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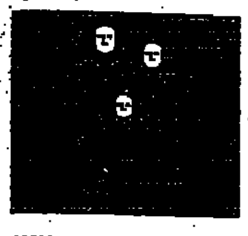


The welfare state
Under threat from cost cutters everywhere
Andrew Adonis, Page 10

Greece's new regime
More flexible towards Turkey
Page 3

Emu
Seeing off the speculators
Page 2

Today's surveys
FT-IT Review
Foreign Exchange
Separate sections

Crédit Lyonnais aims to securitise FFr40bn of loans

Crédit Lyonnais, the state-owned French bank, is to announce details of a FFr40bn ($7.69bn) securitisation issue designed to increase its financial flexibility at a time when it is facing the prospect of substantial losses. The issue will be the largest securitisation carried out on the French market and represents an ambitious expansion in the use of the technique. Page 13

US call for regulation reform: Congress should give US regulators power to oversee foreign markets such as the London Metal Exchange, said the New York Mercantile Exchange, the LME's rival. The LME said the proposal, in the wake of the Sumitomo copper affair, was "unsurprising". Copper broker suspends staff, Page 4

Japan to allocate $155bn to science: Japan is to allocate Y17,000bn ($155bn) to science and technology over the next five years, in an attempt to overcome the reputation of its people as great developers of other people's ideas but poor innovators. Page 12; Money thrown at research, Page 5

Blow to EU fishing industry: The European Union's fishing industry suffered a heavy blow when the European Commission halved this year's quotas for herring fishing in the North Sea to avoid a collapse of the stock. Page 2

Cuban hotels deal agreed: A Canadian entrepreneur is undertaking a $400m joint venture to build 11 tourist hotels in Cuba in the island's biggest foreign investment deal since the US introduced measures in March to discourage foreign business. Page 12

US appeal over internet indecency: The US Justice Department has formally appealed to the Supreme Court over a decision by a special federal court panel in Philadelphia that blocked a new law against distribution to minors of indecent material over computer networks.

Boeing moves into executive jets: Boeing and General Electric, both of the US, launched a joint venture to build executive jets. Page 13

Profit expected at Lloyd's: Lloyd's of London will next week mark the end of five lossmaking years at the insurance market by reporting a £1.18bn ($1.8bn) profit for the 1993 account, according to estimates. Page 7

Israel budget cuts agreed: Israel's government approved sweeping budget cuts, without agreeing on which areas to target. Page 4

Thai bank governor quits: Vijit Supinit, the governor of Thailand's central bank, has resigned following sharp public criticism of his role in a series of financial scandals. Page 12; Fall from grace, Page 5

Further arrest in Arizona 'bomb plot': US federal authorities announced another arrest, making the total 13, in the alleged paramilitary plot to bomb government buildings in Arizona. Page 6

Seoul targets trade deficit: South Korea's president Kim Young-sam called for a halt to overseas holidays and consumer spending on imported luxury products in an effort to cut the country's trade deficit. Page 5

SmithKline Beecham, the UK drugs company, is to be paid $100m over the next five years by two other drugs companies for a genetic database it built with its US partner. Page 13

Baring Asset Management, one of the biggest foreign investors in South African shares, is considering suspending share dealing through South Africa-based Nedcor Securities. Page 13

Vietnam's Communist party is to change its foreign investment law in October but opportunities for foreigners could diminish. Page 4; Editorial Comment, Page 11

Klaus reappointed as Czech PM: Václav Klaus was reappointed prime minister of the Czech Republic and submitted a list of proposed cabinet members to president Václav Havel. Page 3

UK upbeat about Saudi relations: UK foreign minister Malcolm Rifkind had talks in Saudi Arabia and said trade relations had not been affected by the presence of Saudi dissident Mohammed al Massaari in Britain. Page 4

Wimbledon: Top men's seed Pete Sampras will play his quarter-final against Richard Krajicek of the Netherlands who yesterday defeated Germany's Michael Stich, the tenth seed. In the women's event, Germany's Steffi Graf overwhelmed former finalist Jana Novotna and now faces Japan's Kimiko Date in the semi-finals. The other semi is between fourth-seeded Arantxa Sanchez Vicario and Meredith McGrath of the US.

STOCK MARKET INDICES

New York lunchtime		
Dow Jones Ind Av	5,716.68	(-13.90)
NASDAQ Composite	1,195.61	(-2.44)
Europe and Far East		
CAC40	2,111.80	(-6.95)
DAX	2,572.25	(+8.25)
FT-SE 100	3,725.7	(+0.1)
Nikkei	22,347.97	(-107.52)

US LUNCHTIME RATES

Federal Funds	5 7/16%
3-mth Treas Bills: Yld	5.31%
Long Bond	88¼
Yield	6.934%

OTHER RATES

UK: 3-mo Interbank	[illegible]	([illegible])
UK: 10 yr Gilt	[illegible]	([illegible])
France: 10 yr OAT	105.22	(105.32)
Germany: 10 yr Bund	97.93	(98.15)
Japan: 10 yr JGB	[illegible]	([illegible])

NORTH SEA OIL (Argus)

Brent Dated	$19.485	(19.58)

GOLD

New York Comex		
(Aug)	$383.3	(382.7)
London:		
close	$381.75	(382.1)

DOLLAR

New York lunchtime		
£	1.5545	
DM	1.52805	
FFr	5.1595	
SFr	1.251	
Y	110.145	
London:		
£	1.5562	(1.5556)
DM	1.527	(1.5235)
FFr	5.1623	(5.1525)
SFr	1.2523	(1.249)
Y	110.14	(109.575)

STERLING

DM	2.3762	(2.3701)
Tokyo close:	Y 169.85	

Algeria	[illegible]	Germany	DM4.00	Lithuania	Lts 15.00	Qatar	QR13.00		
Austria	[illegible]	Greece	Dr400	Lux	LFr75	S.Arabia	SR12		
Bahrain	Din1.250	Hong Kong	HK$20	Malta	Lm0.55	Singapore	S$4.30		
Belgium	BFr75	Hungary	[illegible]	Morocco	[illegible]	Slovak Rp	Sk65		
Bulgaria	[illegible]	Iceland	[illegible]	Neth	[illegible]	S. Africa	R12.00		
Canada	C$1.20	India	[illegible]	Nigeria	[illegible]	Spain	Pta250		
Cyprus	[illegible]	Indonesia	[illegible]	Norway	[illegible]	Sweden	SKr20		
Czech Rp	[illegible]	Ireland	[illegible]	Oman	OR1.50	Switz	SFr3.70		
Denmark	[illegible]	Israel	[illegible]	Pakistan	[illegible]	Syria	[illegible]		
Egypt	[illegible]	Italy	[illegible]	Philippines	[illegible]	Tunisia	Din1.750		
Estonia	[illegible]	Japan	Y600	Poland	[illegible]	Turkey	[illegible]		
Finland	[illegible]	Jordan	JD1.50	Portugal	[illegible]	UAE	Dh12.00		
France	[illegible]	Kuwait	[illegible]						
		Lebanon	US$3.00						

Radical restructuring designed to cut operating costs by $551m a year

Big shake-up at Credit Suisse

By William Hall in Zurich and Nick Denton in London

CS Holding, one of the world's largest financial services groups, has unveiled a radical restructuring plan aimed at improving its lacklustre earnings in recent years.

The group, which is based on the Credit Suisse commercial bank in Switzerland and the CS First Boston investment bank in New York and London, said its operations would be concentrated into four core businesses cutting 5,000 jobs – the divestment of industrial activities and an extraordinary charge of SFr1bn ($800m). The group hopes to save about SFr700m in annual operating costs.

Mr Rainer Gut, CS chairman, said the restructuring would change the group from a "Swiss bank with international activities to an international financial institution with headquarters and certain core businesses in Switzerland".

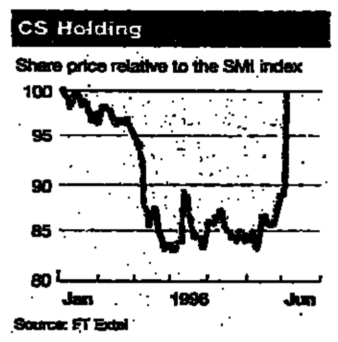
Mr Lukas Mühlemann, chief executive of Swiss Reinsurance, has been appointed group chief executive. Mr Josef Ackermann has resigned as chief executive of the Credit Suisse bank because of "differing views", the group said.

CS Holding shares, which have trailed the Swiss market for much of this year, jumped SFr14.5 to SFr134.5 and led the SMI index of leading Swiss shares to a record high.

However, the two leading international credit rating agencies, Moody's Investors Service and Standard & Poor's, put Credit Suisse on credit watch, indicating that a reduction of its ratings was being considered.

CS Holding

Share price relative to the SMI index



Source: FT Extel

The announcement comes less than three months after the 64-year-old Mr Gut made an abortive proposal to merge his group with the Union Bank of Switzerland.

The four core activities that the group, which will be renamed Credit Suisse Group, will concentrate on are: Swiss domestic banking, corporate and investment banking worldwide, private banking and institutional asset management. CS officials said yesterday that it would probably dispose of its 44.9 per cent stake in the Electrowatt electric power generation and industrial controls subsidiary.

Credit Suisse has been slower than its Swiss rivals to cut back its unprofitable domestic retail division, and most of the SFr1bn provision will cover this. Swiss retail banking, which operates under three brand names, will be consolidated under the Credit Suisse Volksbank name and about 3,500 of the 5,000 job cuts worldwide will be made in the Swiss retail network.

The group expects the job cuts to take place over the next two to three years, largely through normal staff turnover. By eliminating overlapping bank branches CS expects to cut its Swiss network from 376 outlets to about 250.

The international investment banking business of CS First Boston would be merged with the international corporate and Swiss investment business of Credit Suisse. The enlarged Credit Suisse First Boston would have an equity capital of about $8.5bn and rank as the largest corporate and investment

Continued on Page 12

Rainer Gut: vision of restructured group as an international financial institution Picture: Reuter

Digital to shed 7,000 jobs in $475m overhaul

By Louise Kehoe in San Francisco

Digital Equipment, the world's largest computer company after International Business Machines, is to cut 7,000 jobs and take a $475m restructuring charge.

The moves are part of an attempt to deal with unexpected problems in its personal computer business and weakness in the performance of its European subsidiaries.

Digital's problems highlight the recent downturn in the personal computer industry in the US and some parts of Europe, particularly Germany.

Mr Robert Palmer, Digital chairman and chief executive, said earnings for the fiscal fourth quarter would be "well below expectations," and revenues would be below those of the same period a year ago.

The anticipated shortfall is a serious setback for the company, which had appeared to be making a recovery after heavy losses. Between 1990 and 1994 Digital recorded cumulative losses of more than $5bn, but the company returned to profitability in late 1994 and has reported six consecutive quarters of strengthening results.

"This is a setback," Mr Palmer acknowledged. "We haven't managed our PC business very well at all. We did not accurately measure resellers' sales."

A number of other leading PC manufacturers, including Apple Computer and Packard Bell of the US, and Olivetti of Italy, have been struggling to come to terms with problems in the PC market. Apple has undergone a management restructuring and reported big losses; Packard Bell has merged its PC operations with those Groupe Bull of France and Japan's NEC; and Olivetti has been struggling to return its lossmaking PC business to profit.

When PC prices dropped sharply, earlier this year, Digital, like most other manufacturers, was forced to give rebates to dealers on their excess stocks.

However, Mr Palmer insisted Digital's turnaround remained

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Russian security chief urges visa clampdown

By John Thornhill and Chrystia Freeland in Moscow

Lebed takes up fight for Yeltsin on eve of poll

Mr Alexander Lebed, Russia's newly-appointed national security chief, yesterday seized the political centre stage on the eve of presidential elections by calling for tougher visa requirements for foreigners and a fresh crackdown on government corruption.

The speech was part of President Boris Yeltsin's attempt to highlight his nationalist credentials and fight off the challenge of communist rival, Mr Gennady Zyuganov, in today's decisive presidential poll.

For the first time in Russia's history, its 108m registered voters will elect a Kremlin leader after a fierce contest in which Mr Yeltsin has promised to pursue economic reform while Mr Zyuganov has pledged to strengthen government control over the economy and improve the social welfare system.

Mr Yeltsin, whose re-election prospects have been clouded by illness and an abrupt disappearance from public campaigning, was reported to be working from his country dacha.

The announcement of Mr Lebed's tough law-and-order programme was designed to emphasise the prominent role he would play in a future Yeltsin administration. Mr Yeltsin brought the former paratrooper into his administration after Mr Lebed won 15 per cent of the vote in the first round of the elections.

Mr Lebed, who outlined plans to overhaul the armed forces, crackdown on crime and corruption, and secure Russia's borders by tightening visa requirements for foreigners, has emerged as one of Mr Yeltsin's most forceful campaigners.

But Mr Lebed's aggressive nationalist rhetoric and obvious ambition have already earned him public reprobation from some of Russia's senior leaders and western governments.

He tried to counter those objections yesterday admitting: "There have been a lot of rumours about enormous additional powers that I have allegedly wanted to assume – Lebed is striving for power, Lebed is making demands, Lebed is a monster."

He insisted that these accusations were not true, but undermined his defence by broadening the traditional definition of national security to include economic, ecological and even moral and psychological concerns.

Mr Zyuganov, who trailed the president by 3 percentage points in the first round of voting, also adopted a low profile yesterday, withdrawing from a press conference for fear of breaking the electoral law which prevented campaigning the day before the poll.

But he still appears confident he can steal victory if Mr Yeltsin's unenthusiastic constituency fail to make it to the polls today and wavering voters baulk at electing an ailing 65-year-old man who has suffered two heart attacks in the past year.

Analysts believe voter turn-out could be the decisive factor in today's ballot, predicting a comfortable Yeltsin victory if more than 60 per cent of electors make it to the polls, but warning that the president's career could be in jeopardy if fewer Russians muster the energy for a second vote.

Power brokers at the bedside; Observer, Page 11

MasterCard steps up credit battle with US curb on rivals

By Motoko Rich in London

MasterCard International has intensified the global battle between credit card issuers by restricting its member banks in the US from issuing rival cards such as American Express or Dean Witter Discover.

Following a meeting of MasterCard's global board of directors in London over the weekend, the US board, consisting of 24 representatives from its member banks, decided that "members that choose to issue competing card programmes may not participate in MasterCard within the US region".

The policy move, which follows last month's announcement by American Express of an international expansion programme, aligns MasterCard with Visa, a rival payment card organisation. Visa has a by-law in the US banning member banks from issuing all rival cards except MasterCard, and MasterCard's policy would match this.

Until now, American Express has issued its own cards through a proprietary distribution channel. However, earlier this year it said it wanted to issue cards through banks. It has established distribution deals with banks in Brazil, Greece, Israel, Turkey, Portugal, Venezuela, South Korea and South Africa.

Visa tried to restrict its European member banks from issuing rival cards, but decided to drop the plans after Mr Karel Van Miert, European competition commissioner, warned that it could "not accept" such a move.

MasterCard, which has 13,300 members in the US, said yesterday it had decided "support for the MasterCard brand would be diminished if its members participated in competing programmes such as American Express".

The US Department of Justice said it would be "looking at competitive issues involving the prohibition of certain joint ventures in the credit card market", although it declined to say which companies or brands it was investigating.

Mr Jon Linen, vice-chairman of American Express, said: "I think this move by MasterCard is frankly arrogant. It looks like MasterCard's reaction to our new strategy."

He said American Express had already been approached by 50 US banks interested in issuing the cards. "We would like every bank to have the right of choice and we think this move is downright anti-competitive."

In the US, Visa commands 49.9 per cent of the credit card market while MasterCard holds 27.1 per cent and American Express, 15.4 per cent. Last year Visa held 54 per cent of the global credit card market in terms of transaction volumes. Mastercard had 31 per cent and American Express 10 per cent.

Mr Mark van Waue, secretary-general of Europay International, a payment card membership organisation which runs the MasterCard brand in Europe, said: "We have said from the beginning that we do not intend to impose such a ban in Europe."

CONTENTS

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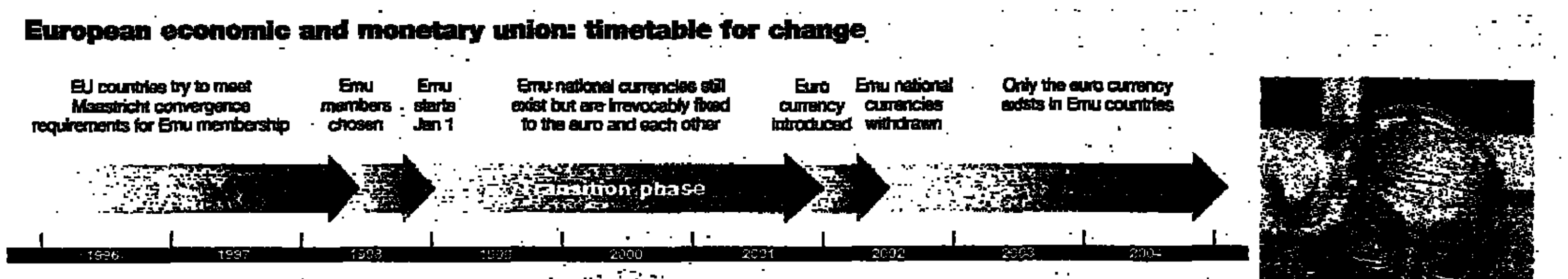
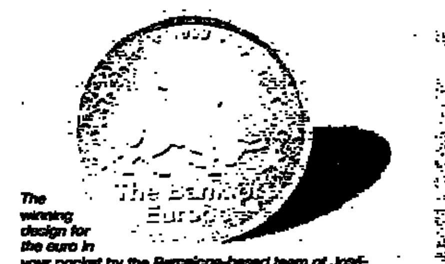
LONDON · LEEDS · PARIS · FRANKFURT · STOCKHOLM · MADRID · NEW YORK · LOS ANGELES · TOKYO · HONG KONG

European economic and monetary union: timetable for change





The winning design for the euro in your pocket by the Barcelona-based team of Josh-Maria Codina and Joan Fontanals in an unofficial competition across the EU's 15 member-states. The competition, sponsored by the European Commission and European Parliament, was opposed by central banks and bureaucrats in several countries which consider the design is their responsibility.

The EMI's proposed legal framework

Source: EMI; FT

EMI President Alexandre Lamfalussy

EU lawyers to discuss how to beat speculators on road to single currency

Quest for an Emu without tears

As the markets mull the outlook for European monetary union, a group of law officials will gather in Brussels today for a secretive meeting.

Representatives from the European Commission, European Monetary Institute and European Union governments will be working out details of the legal framework for Emu.

With the EMI and Commission having both recently produced draft legal frameworks, many of the key issues have been decided. However, one small detail could generate some strong debate today – the question of how far the law can be used to fight currency speculation in the transition phase in which national currencies and the euro co-exist.

The EMI has proposed that contracts which do not respect the official exchange rates should be unenforceable under EU law. It believes this is necessary to make Emu more credible. However, the European Commission – which is ultimately responsible for creating the new legislation – wants to take a slightly softer line.

The debate over the legal language highlights a broader fear about whether currency turmoil could threaten Emu – and whether policy makers can do anything to combat it.

As one banker who has recently been in discussion with the Commission about the issue says: "The fear of market speculation has become a real obsession. The Commission and EMI are casting around for things to fight it."

Just how far this fear is justified is an issue of considerable debate in the markets. On the one hand, the currency markets have been calm in recent months. And with some market players having been burnt by failed attempts to weaken the French franc in recent years, most traders insist there is little stomach for speculation at the moment.

However, as Emu approaches, many admit there are likely to be tensions emerging, not only around the currencies which might be left outside Emu – but also for the currencies

Gillian Tett on how the law might be used to fight currency speculation in the transition

which are potentially members.

The EMI has voiced concerns about the period when the single currency finally replaces national currencies in the Emu "area" in 2002. Although the Euro notes and coins will be introduced from January 1 2002, national notes and coins will still circulate until July 2002. To clarify this in legal and practical terms, the EMI is suggesting that this period should be shortened.

However, it is at the earlier end of the time spectrum, around 1999, that the ambiguities create the dangers for currency speculation.

According to the current timetable, the members of Emu are due to be announced in mid-1998. However, Emu itself – and the irrevocably fixed exchange rates – will not start until 1999.

Some market players believe this intervening period could trigger considerable market volatility. For if market traders believe that the currencies will be fixed in 1999 at rates which differ from the rates in force in mid-1998, they will bet on different exchange rates in their dealings.

In legal terms there is little that the EMI or Commission could do to combat this because the fixed exchange rates do not legally start until 1999. However, some policy makers are already casting around for other solutions.

Mr Alexandre Lamfalussy, president of the EMI, for example, has suggested that to avoid speculation the future currency rates should be pre-announced when Emu membership is announced in mid-1998.

The idea is viewed with caution in the Commission. However, it has been welcomed by some market players – although they warn it would be effective only if central banks were prepared to intervene.

As Mr Avinash Persaud, head of currency research at the US bank JP Morgan in London, says: "I am already telling my clients that Emu could start in the middle of 1998."

However, the other ambiguous area, which has triggered the current legal debate, concerns the transition period between 1999 and 2002.

During this period, national notes and coins will remain in full circulation. But since the different national notes will only be separate expressions of the same currency – the euro – they will be freely convertible with each other at fixed, "irrevocable" exchange rates.

In theory, this means that there will be no more room for currency speculation. In practice, however, the crucial question will be whether dealers will be prepared to bet that the supposedly "irrevocable" exchange rates might be changed in the future, or Emu itself fall apart.

The EMI wants to discourage this by insisting that contracts which do not respect the official rates are unenforceable. However, banks themselves remain deeply split over how effective these legal tools might be.

Some suspect that they are likely to be all but irrelevant, since there will be relatively little room for speculation. But others warn that legal tools would simply drive trade abroad, not least because it is unlikely that EU law would be fully recognised in other markets such as New York.

But either way, most bankers – and many policy makers as well – suspect that if market speculation does emerge, it is likely to be a symptom, rather than the cause, of broader problems.

As one banker says: "The only thing that will stop markets speculating will be a belief that Emu is thoroughly credible in political and economic terms. That is far more important than any of the legal stuff."

Brussels urged to boost challenge to illegal state aid

By Neil Buckley in Brussels

EU companies should have stronger powers to sue competitors that have received illegal state aid in their national courts, according to Unice, the European employers' federation.

Unice also urges that procedures for vetting aid cases by the European Commission should be overhauled. Increasing numbers of aid cases are being approved by the Commission when they should be blocked, because inquiries are poorly publicised and competitors' views not properly canvassed, the federation says.

Unice says 50 challenges to state aid rulings by the Commission are now pending in the European Court of Justice, compared with a total of only 100 state aid judgments made by the court to the end of 1993.

In a paper sent this week to Mr Karel Van Miert, EU competition commissioner, Unice calls for a "procedural regulation" laying down comprehensive rules on what constitutes state aid, how inquiries should be publicised and third parties consulted, and time limits for investigations.

The regulation would be similar to that which sets out the way the Commission vets merger cases, to ensure they do not damage competition.

It also calls for a "remedies directive" to guide national courts in dealing with damages claims against companies that have benefited from illegal subsidies, and to encourage competitors to bring such cases. At present, Unice says, the maximum penalty the Commission can impose is to force companies to repay illegal aid. The role of national courts is still unclear, in spite of new Commission guidelines this year.

Unice's recommendations come after it warned in a paper last year that excessive amounts of state aid were still being approved to EU companies. The latest available figures, for 1992, show industrial state aid alone totalled Ecu34bn ($42bn), or Ecu1,200 for every employee in the industrial sector.

Mr Dirk Hudig, chairman of Unice's company affairs committee, said state subsidies lowered the break-even point for companies, allowing them to cut prices and drive out competition. "State aid really goes to the heart of Europe's competitiveness, and its attractiveness as a place to invest," Mr Hudig said.

Controversial cases this year including approval of a Pta87bn ($713m) aid to Iberia, the Spanish airline, and the revelation that state subsidies to Bremer Vulkan, the German shipyard owner, were diverted into projects different from those for which they were granted, have fuelled demands for a review.

Mr Jacques Santer, Commission president, has also called for a re-examination of state aid as part of his "confidence pact" for employment. He believes too much aid is going to heavy industry to save jobs, rather than to research and development projects and small enterprises that could create new jobs.

Mr Van Miert has proposed changes, including doubling the minimum size of state aids on which the Commission rules to Ecu200,000 to give his hard-pressed staff more time to judge big cases. Unice says even that threshold is far too low; it suggests Ecu50m.

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EUROPEAN NEWS DIGEST

Court rules on EU job barriers

A German musician whose request to join the Athens opera was turned down on the grounds of nationality has had his complaint upheld in the European Court of Justice.

The judgment reinforces the principle of freedom of movement of workers inside the EU to the public sector, and covered similar complaints from the European Commission about Greek barriers to employment in the electricity, gas, transport, teaching and communications sectors.

The Court also found that the Belgian government operated barriers to foreigners seeking jobs in the gas, electricity and water industries. It ruled that the Luxembourg government was restricting access to jobs in the area of public utilities, scientific research, communications and the public health sector.

The rulings mean that Belgium, Greece and Luxembourg must end discrimination on the basis of nationality and scrap barriers preventing workers from other EU member states from competing for jobs in their public sectors.

The Court said restrictions on foreigners could only be justified where the work related directly to the exercise of public authority. Belgium, Greece, and Luxembourg were all asked to pay costs. *Lionel Barber, Brussels*

Probe into Crédit Foncier aid

The European Commission is today to launch an investigation under state aid rules into the French government's plans to rescue Crédit Foncier de France, the troubled property lender. The French government has said it would guarantee CFF's debt after the lender announced a loss of FFr10.8bn ($2.32bn), largely as provision for bad investments in real estate.

The loss followed the ending last year of Crédit Foncier's monopoly on government-backed housing loans. The commission is likely to examine the terms of the French government's guarantee of FFr260bn of bonds, to ensure they do not contravene state aid rules. The French authorities will also be asked to disclose the size of any subsidies paid to the bank. The government has given CFF until July 31 to present its restructuring plan. Voting on a plan presented by minority shareholders to CFF's shareholder meeting on Friday to split the bank into two units was delayed after pressure from larger shareholders. *Neil Buckley, Brussels*

■ The European Commission yesterday approved acquisition by Caisse Nationale du Credit Agricole of 51 per cent of Banque Indosuez, a unit of Compagnie de Suez, and cleared Bayernwerk to acquire 25 per cent of Germany's Erdöl-Erdgas Gommern, currently owned by Gaz de France. *Neil Buckley*

Greenpeace manager dismissed

Greenpeace, the international environmental organisation, suffered a setback to its campaign against Danish industrial fishing of tobis off the east coast of Scotland, when Greenpeace Denmark dismissed its manager, Mr Mats Abrahamsson, on Monday night.

Tobis, are used for production of fishmeal and fish oil, an industry dominated by the Danes in northern Europe. Over the past 10 days a ship sent by Greenpeace International to the Wee Bankie, about 30km off the east coast of Scotland, has tried to sabotage fishing by Danish trawlers on the grounds that industrial fishing destroys the region's food chain.

Mr Abrahamsson, a Swede, supported the action against the Danish trawlers, but the Danish organisation's campaign manager, Mr Klaus Iversen, was critical of the campaign and the means used against the trawlers. At a five-hour meeting on Monday evening, attended by a senior representative of Greenpeace International, the Danish organisation's governing board fired Mr Abrahamsson. *Hilary Barnes, Copenhagen*

Ukraine bank cuts discount rate

Ukraine's central bank lowered its yearly discount rate 10 points yesterday to 40 per cent, as its inflationary outlook improves during the summer months.

The government's stabilisation efforts have managed to reduce the monthly inflation rate from 9.4 per cent in January to 0.7 per cent in May, the lowest rate since Ukraine gained independence in 1991.

The bank's interest rate action is intended to revive stagnant output and lessen liquidity problems at commercial banks, which have not fully subscribed to government bonds due to cover 33 per cent of the fiscal deficit this year.

Meanwhile, Mr Roman Shpek, Ukraine's chief contact with western financial agencies, was demoted yesterday from deputy prime minister to head of a new development agency.

His departure from the cabinet is part of an ongoing reshuffle. The move reduces the number of deputy prime ministers, as mandated in the constitution. But Kiev appears eager to reassure the International Monetary Fund and the World Bank that economic reformers will continue to play a leading role in negotiating loans. *Matthew Kaminski, Kiev*

Tudjman TV show dropped

Croatian state television, controlled by President Franjo Tudjman's government, has cancelled its only programme that was critical of the Croatian leader and his ruling party. Staff of the programme *Slikom na Sliku*, or Frame by Frame, said yesterday they had received no explanation.

The senior news editor at Croatian state television said the programme was cancelled as part of a new summer schedule, and that it would be merged with another news programme. The 45-minute show was the only Croatian state TV programme that covered the opening of a trial last month against newspaper journalists accused of insulting Mr Tudjman.

Mr Tudjman and his Croatian Democratic Union have come under concerted criticism for muzzling the media.

Croatia was conditionally accepted earlier this year for membership of the Council of Europe, a stamp of acceptance in the family of European democracies. But the Council in May backtracked on that decision because of issues including Mr Tudjman's refusal to allow an opposition politician to become mayor of Zagreb, the capital. *AP, Zagreb*

German government contracts deal opposed

By Michael Lindemann in Bonn

German industrialists have displayed their political muscle by trying to thwart Bonn's attempt to settle a row with the US over public sector contracts. The Federation of German Industry (BDI) opposes giving companies recourse to the courts if they are unhappy about the way contracts are awarded. The US wants American companies to be able to appeal over such contracts.

The BDI said it was determined to ensure that companies which had misgivings about the way contracts for power stations and other larger state projects were awarded should not be allowed to go to court, where decisions took too long and held up the tendering process.

The row centres on complaints by Washington that General Electric and Westinghouse were treated unfairly in their unsuccessful bids for power stations in eastern Germany. The US has demanded that Germany introduce legislation to allow recourse to the courts in such cases.

The BDI used its influence to ensure that Chancellor Helmut Kohl's cabinet postponed a final discussion last week about the legal changes needed to ensure that companies such as General Electric could seek legal redress.

A BDI official said companies should use a new arbitration procedure under the supervision of Germany's cartel authorities which has been implemented during the last two years and could reach quicker decisions. But US officials in Bonn said General Electric and Westinghouse had used these procedures but were not satisfied with them. "We have been patient for a number of years, giving this situation a chance to work," a US official said, "but it has not."

The BDI's resistance throws doubt on whether the US and Germany can reach final agreement on a problem which has been troubling their relations for several years.

Ms Charlene Barshefsky, acting US trade representative, said earlier this week that the US would give Germany until September 30 to find a solution to the problem.

US officials said the cabinet had discussed draft changes to the law on public sector contracts at its meeting on May 22, but that a final decision at last week's cabinet session had been postponed because of opposition from sections of Mr Kohl's ruling Christian Democratic Union, who fear that German companies will suffer as a result of the changes.

But the US officials said Mr Kohl's government had indicated it was prepared to institute special fast-track court procedures, which would require a decision within 35 days. Those proposals, once submitted by the government, would be able to overcome parliamentary and other opposition, the US officials said, adding that access to the courts was also required under European Union guidelines.

"What the people at the BDI are suggesting is not a solution from the EU point of view nor from our point of view," a US official said. "Something short of access to the courts would mean that we [the US and Germany] would be back in conflict." The BDI spokesman acknowledged that EU guidelines required legal protection for companies dissatisfied with tenders.

Heavy blow for EU fishermen

By Neil Buckley in Brussels and Alison Maitland in London

The European Union's fishing industry suffered another heavy blow yesterday when the European Commission halved this year's quotas for herring fishing in the North Sea to avoid a collapse of the stock.

The emergency measure comes only weeks after the Commission warned member states they would have to cut fishing fleets by up to 40 per cent from next year to safeguard other over-exploited stocks.

The Commission agreed with non-EU member Norway, with which it jointly manages North Sea stocks, to halve herring catches this year. The quota for the eight EU states fishing for herring will be cut from 313,000 to 156,000 tonnes in the North Sea, and from 120,000 to 90,000 tonnes in the Skagerrak and Kattegat waters around Denmark.

Officials said a "drastic reduction" was the only way to avert a freeze on herring fishing, after reports from the International Council for the Exploration of the Sea warned that mature herring stocks had fallen to half minimum levels advised by scientists. Herring fishing was banned between 1977 and 1982, when stocks came close to being wiped out.

The Commission is also acting for the first time against industrial fishing fleets, operated mainly by Denmark. "By-catches" of young herring by industrial trawlers, fishing largely for sprat for fishmeal, will be limited to 143,000 tonnes after previously being unrestricted.

Demands to reduce fishing fleets to protect stocks are expected to provoke clashes between EU states and the Commission in coming months, as the precise cutbacks each state must make are negotiated.

Mrs Emma Bonino, the fisheries commissioner calling for the cuts, has been the target of hate mail from fishing communities. But yesterday's measures were reluctantly welcomed by government officials in the UK, one of her sternest critics.

The UK faces a halving in its herring quota to 24,640 tonnes. "If cuts of this magnitude are not made, we face the complete closure of the fishery next year," said a spokesman.

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Bildt visits new Bosnian Serb leader

Peace envoy keen to find out if Mrs Plavsic's takeover from Karadzic is genuine

By Laura Silber and Bruce Clark

Mr Carl Bildt, the peace envoy to Bosnia, yesterday called on Mrs Biljana Plavsic, the Serb nationalist politician, in the hope of winning assurances that her takeover of power from Mr Radovan Karadzic, an indicted war criminal, was genuine.

While the meeting itself – in the Bosnian Serb "capital" of Pale – amounted to a cautious gesture of faith in Mrs Plavsic, aides to Mr Bildt said he would watch closely to see who wielded real power in the mountain stronghold.

If Mr Karadzic, who has gone through the motions of transferring power to Mrs Plavsic, continues to pull the strings, the Swedish envoy will have no choice but to call for the reimposition of sanctions against the Serbs.

But Mr Bildt's team is understood to be acutely conscious of the drawbacks of this option. It fears that the reimposition of punitive measures would amount to an admission that there is no early prospect of reintegrating Bosnia. This would render almost pointless the pan-Bosnian elections scheduled for mid-September.

Mr Evgeni Primakov, the Russian foreign minister, pointedly reminded his western counterparts at last weekend's Lyons summit that the system of UN sanctions in ex-Yugoslavia is supposed to lapse 10 days after free and fair elections.

He successfully demanded this point be reaffirmed in the Lyons communiqué. However western officials have baulked at Russia's claim that the impending lapse of the UN sanctions regime makes all talk of fresh punishment irrelevant.

The US and its European allies could impose an entirely new package of punitive measures, even if they were not endorsed by the UN as a whole, they argue. It is also possible that the elections will be held as planned, and then declared to have been less than free and fair in the Serb mini-state.

British officials have argued strongly that a set of possible sanctions against the Bosnian Serbs – including economic, political and cultural isolation – should be held in readiness to be imposed at any moment.

But they are equally adamant that punitive measures should not initially be applied to Serbia proper, as long as there is some hope of Belgrade playing a constructive role.

"We are pleased with what Bildt has achieved so far, but it does not go far enough," said one British official, referring to the Swedish envoy's efforts to sideline Mr Karadzic.

Among US officials, the tone is stronger. "Bildt has been burned twice, and this time Western governments must take action," said one.

Meanwhile the tough stance adopted by Moscow at the Lyons summit has reminded western government that Russia could again become a wild card in Bosnian diplomacy, regardless of who wins today's election. General Alexander Lebed, the strongman in a new Yeltsin administration, and communist challenger Mr Gennady Zyuganov were furious critics of last autumn's Nato bombing campaign against the Serbs.

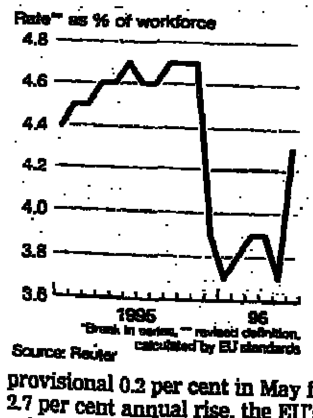
Mr Yeltsin abruptly toned down his criticism of western policy in ex-Yugoslavia last October in what many observers viewed as trade-off with President Bill Clinton: Russia would give the west a free hand in Bosnia, on the understanding no concrete moves would be made in 1996 to enlarge Nato.

Whether or not such a formal undertaking exists, Nato expansion will be back on the agenda this winter, the very time when the UN Security Council will be considering its next move in Bosnia.

ECONOMIC WATCH

Austrian unemployment rises

Austrian unemployment



Source: Reuter

The seasonally adjusted unemployment rate in Austria was 4.3 per cent in June, up from 3.7 per cent in May but down from 4.7 per cent a year earlier, the labour ministry reported yesterday. The country's unadjusted jobless rate was 5.8 per cent in June, down from 6.4 per cent in May and up from 5.4 per cent in June 1995, the ministry said. The total number of registered unemployed in Austria at the end of June was 188,750, down from 207,379 at the end of May.

■ EU consumer prices rose a provisional 0.2 per cent in May from a month earlier, giving a 2.7 per cent annual rise, the EU's Eurostat statistical office said. In April, prices rose 0.4 per cent on a monthly basis and 2.7 per cent year-on-year. Eurostat said that using its so-called interim index, constructed for monetary union convergence assessment, the EU's annual inflation rate in May was a provisional 2.7 per cent, against a provisional 2.8 per cent in April.

■ Belgian unemployment fell slightly to 12.8 per cent in June from 13 per cent in May, the Belgian government said yesterday. June's rate is also down from 13.1 per cent for June 1995.

Václav Klaus: was reappointed as prime minister yesterday

Prime Minister Klaus chooses cabinet to rule with minority

End of Czech uncertainty

By Vincent Boland in Prague

Mr Václav Klaus was reappointed prime minister of the Czech Republic yesterday for a second term, a key step in his attempt to put a new minority government in place following an inconclusive general election last month.

Mr Klaus also submitted a list of proposed cabinet members to President Václav Havel, who is expected to swear them in tomorrow. Mr Klaus had earlier handed to the president the resignation of his outgoing government, which lost its parliamentary majority in the election last month.

The prime minister's Civic Democratic party (ODS) has formed a new coalition with the Christian Democrats (KDU) and the Civic Democratic Alliance (ODA), its partners in the former government. They hammered out the substance of a governing programme in talks over the past month, and Mr Klaus said yesterday he expected final agreement in about 10 days.

He said he should be able to present the programme to parliament "around July 16 or 17" and seek a vote of confidence. The new coalition, with 99 of parliament's 200 seats, needs the support of the main opposition Social Democrats (CSSD) to win the vote and to survive in office.

The four parties have signalled a willingness to compromise in order to secure that support, but it is not yet guaranteed.

Some of the CSSD's demands have already been met, including the election of its leader, Mr Miloš Zeman, as chairman of parliament and of senior party officials to parliamentary committees.

Following his election last week Mr Zeman gave a further sign that the party's support would be forthcoming by making a conciliatory acceptance speech.

It is possible the CSSD would back the coalition in office for its full four-year term, although there is a widespread belief that a minority administration will not survive that long. Within the new cabinet the ODS has retained its influence over financial policy and foreign affairs, but has been forced to surrender the large majority it enjoyed in the old cabinet.

It will take eight of the 16 posts, including that of prime minister, with the KDU and the ODA taking four each.

The list of proposed ministers contains six new faces but only one new portfolio, a ministry for regional development, while the privatisation and economy ministries are abolished. Mr Havel has already indicated that he does not see any barrier to approving the list of ministers.

Irish crime puts EU in shade

By John Murray Brown in Dublin

The Irish government yesterday launched a drive against organised crime, using the opening day of business of Dublin's presidency of the European Union to highlight the need for co-operation in tackling the problem of drug trafficking.

The package of measures, approved by the cabinet last night, is a direct response to public anger at the killing of Veronica Guerin, a crime reporter shot in her car last Friday, allegedly by gangland elements.

The government reform package is expected to include changes to the bail law and police detention periods, the curtailing of the right to silence, and more resources to improve the police and prison systems. Adoption of an opposition Fianna Fail proposal giving courts the power to freeze assets of suspected drug barons is also thought to be part of the package.

In addition, the government is said to be considering the appointment of a special prosecutor, similar to what happened in Italy to combat the Mafia.

Ireland's drugs problem is arguably no worse than in other European states. But it has been allowed to flourish in a climate of lawlessness, which many politicians believe is a direct spillover from Northern Ireland's 25 years of paramilitary violence.

Irish police said yesterday former paramilitaries may have been involved in what is believed to have been a contract killing of Guerin. "Ireland didn't have a crime problem in the 1960s. But always when there are people using guns for a cause there will be those who use guns for their own ends," said Mr Joe Costello, a Labour party MP in Dublin.

Without a forthright policy response from the government, some deputies worry the republican movement may seek to exploit the situation for political gain. Already a paramilitary involvement is suspected in a number of vigilante beatings of drug pushers in Dublin's inner city.

Police were also last night investigating a possible threatening telephone call to Ms Roisin Shortall, a Labour party MP involved in campaigning against drug dealers.

Brussels warning over French TV's health kick

By Diane Summers in London and Andrew Jack in Paris

France has been given 40 working days by the European Commission to lift restrictions on the TV broadcasting of sporting events where hoardings advertising alcoholic drinks and tobacco can be clearly seen by viewers.

If the French government fails to comply, it faces being taken to the European Court of Justice, the Commission warned yesterday.

The Commission is arguing that the restrictions on TV broadcasts under France's *Loi Evin* violate EU rules on the freedom to provide services. The Commission has sent a "reasoned opinion" – the second stage of formal infringement proceedings – to France. The Commission said it was the first time a case of this kind had reached this stage.

The Commission's action was sparked by the banning of a screening by the French TV channel, TF1, of a European football match in March 1995. Since then, other sporting events have also been banned on the grounds that alcohol adverts were visible.

The objective of protecting public health was fully supported, the Commission said, but "in this instance" it considered that "the measures taken to interpret and apply the relevant French legislation are not proportional to this objective".

Mr Philippe Boucher, director of the French national committee against excessive smoking, said yesterday that the decision by Brussels would lead to new efforts to call for a complete ban on alcohol and tobacco advertising at sports events.

"This could backfire against the advertisers," he said. "The fact that there is this type of advertising at sports events at all is more shocking than the fact that it is broadcast. This will put pressure on lobbying of international sports organisations to introduce a total ban." He pointed out that many football clubs were currently supported by public funding, which strengthened the argument for a ban in the interests of public health. He said that the French legislation to ban alcohol and tobacco advertising in sports events was already periodically broken, and that the Brussels decision served simply to clarify the existing situation.

The CSA, the French audio-visual regulator, filed a complaint with the public prosecutor last year after TF1 broadcast football games from other countries but with advertising it claimed was targeted to reach the French market.

However, since that time the CSA has changed its president, and has been less vocal on the subject.

Greek PM leads party out of east

For a man once dismissed by party colleagues as "wimpish", Mr Costas Simitis, Greece's prime minister, showed unexpected determination in shouldering aside rivals for command of the governing Panhellenic Socialist Movement.

Moreover, Mr Simitis's election on Sunday as Pasok's chairman at a special congress shattered a popular Greek myth. The myth is that technocrats are useful to manage the economy and smooth out Greece's problems with the EU, but that only a charismatic personality can lead a political party.

One analyst said: "Pasok has signalled its re-invention as a European socialist party that can respond to what's happening in Greek society, rather than the concerns of the party leader and his hangers-on."

In an unprecedented display of openness by Pasok, state television broadcast the party congress live. Greek viewers watched a dramatic leadership battle in a smoke-filled hall at the Athens Olympic stadium, including a desperate appeal for support by Mr Simitis's populist rival, Mr Akis Tsochatzopoulos, the public administration minister.

Under the late Andreas Papandreou, who founded Pasok and remained its leader until his death last week, party congresses were as secretive as in communist eastern Europe. Central committee votes were frequently rigged and no challenge to Papandreou's supremacy was permitted, Pasok members say. However, Mr Simitis's victory was as much the result of cultivating support for his moderate pro-European policies among younger Socialist organisers around Greece as his performance at the congress.

Even before becoming prime minister, Mr Simitis had developed a network of supporters in local Pasok organisations which elected the 5,100 delegates to the congress.

To secure support from Pasok hardliners, Mr Simitis could point to an impeccably leftwing background. His father, a prominent lawyer, was a member of the communist-led "Mountain Government" during Greece's civil war in the 1940s and several close advisers started their political careers as members of a Maoist communist splinter group that attracted Greek intellectuals in the 1970s.

The challenge for Mr Simitis is not just to keep control of Pasok but to implement policies that conflict with much that Mr Papandreou stood for, including cuts in government spending, reductions in the bloated public sector payroll and a more flexible foreign policy, especially over Turkey.

Since taking over as prime minister from Mr Papandreou in January, Mr Simitis has been criticised for accepting US mediation to defuse a crisis with Turkey and for giving mixed signals to investors.

As party leader, Mr Simitis finally controls the levers of power. He will decide who becomes a Socialist parliamentary candidate in the general election next year. Now that his supporters dominate the 200-member central committee which will elect Pasok's new executive bureau later this week, Mr Simitis will be able to promote his reformist policies more effectively.

Thanks to strong backing at the congress from Mr George Papandreou, the education minister and former premier's eldest son, Mr Simitis can also claim a share in Mr Papandreou's heritage – which will exert a powerful pull on the Socialists for some time. On his first day as Pasok chairman, Mr Simitis made a point of going to the central Athens cemetery to lay flowers on Mr Papandreou's grave.

However, Pasok's populist wing, which gave Mr Tsochatzopoulos 46 per cent of the vote, will find it hard to accept defeat. The populists are used to profiting from the pervasive patronage system and will try to undermine Mr Simitis unless he carries out a purge of Mr Tsochatzopoulos's supporters in the party machine.

Analysts said fears of a split in Pasok seemed exaggerated, given Mr Simitis's high approval rating in opinion polls, which favour his chances of leading Pasok to a sweeping election victory next year against a weak conservative opposition. Government advisers say there are no immediate plans to sack populist cabinet ministers.

The main battleground will be the public sector, where employment has increased by more than 2 per cent in the past year as Mr Tsochatzopoulos, responsible for both the civil service and local government, allowed his supporters to hand out jobs to Socialist voters in defiance of a government hiring freeze.

Mr Simitis's first task is to push through much-postponed legislation for spending cuts aimed at bringing down the government deficit by 1.5 percentage points of gross domestic product next year, in line with Greece's effort to meet the Maastricht targets for EU economic union.

Kerin Hope

Saudi dissident's presence in the UK 'irrelevant', claims foreign secretary

Rifkind brushes aside Massaari affair

By Roula Khalaf in Jeddah

Mr Malcolm Rifkind, the UK foreign secretary, claimed yesterday that the presence in Britain of Mr Mohammed al Massaari, the Saudi dissident, had become "irrelevant" in British-Saudi relations.

UK officials said the Saudis realised that the UK government had done all it could, albeit unsuccessfully, to deport Mr Massaari, who has been waging a fax campaign aimed at discrediting the Saudi government. They also realised that drumming up the issue had been counter-productive, and had raised the dissident's profile in the international media.

British companies have claimed that Saudi irritation with Mr Massaari has led to discrimination against them. British businessmen had been looking to Mr Rifkind's trip to smooth recently strained relations with the kingdom.

After meeting Crown Prince Abdullah and Prince Saud Al Faisal, the foreign minister, Mr Rifkind said UK-Saudi trade and commercial relations were "extremely good" and had not been affected by Mr Massaari's presence in London.

The subject of the dissident was mentioned only once in discussions "very briefly and to dismiss it as a matter of irrelevance to British-Saudi relations," Mr Rifkind said.

He cited trade figures which show a healthy relationship. Exports to Saudi Arabia were up 9 per cent in 1995 and increased by 20 per cent in the first quarter of this year.

Officials said UK companies should wait to see if they had been included in the Saudi oil company Aramco's bidding lists in August, before insisting that the Saudis continue to discriminate against British companies.

UK officials said the future of the Arab-Israeli peace process following the election in Israel of Mr Benjamin Netanyahu, the Likud hardliner, featured prominently in the foreign secretary's discussions with Crown Prince Abdullah.

Mr Rifkind said yesterday that much of what had been achieved in the last three years of the peace process was irreversible, but warned that some of it could be damaged.

UK officials said Mr Rifkind and the Crown Prince had agreed that Arab states should allow time to see whether Mr Netanyahu followed through with his stated positions, rejecting the land-for-peace formula on which Arab-Israeli talks had been based.

Mr Rifkind said there "appears to be a lot of interest" from Saudi officials for a UK proposal for an international initiative to exclude from the 1951 UN convention on refugees asylum seekers who incite others to commit terrorist acts.

He added that the adoption of the UK proposal by the United Nations as a supplement to the convention would require a definition of terrorism, which he believed could be agreed.

Mr Rifkind arrived in Saudi Arabia a few days after a truck bomb exploded at a US Air Force housing compound near Dhahran, killing 19 Americans. Security has been heightened throughout the kingdom and road blocks set up during the night. Mr Rifkind was confident Saudis were providing the necessary protection for British nationals. Britain has 3,500 workers in Dhahran, including 200 Royal Air Force personnel.

Israel takes first step of sweeping plans for fiscal restraint and privatisation

Determined Netanyahu pushes through $1.5bn budget cuts

By Ilene Prusher in Jerusalem

Israel's new government yesterday approved plans to cut Shk4.9bn ($1.52bn) from its 1997 budget, part of prime minister Mr Benjamin Netanyahu's sweeping plans for fiscal restraint and privatisation. It also agreed to reduce the budget deficit as a percentage of gross domestic product to 1.5 per cent by the year 2001, from an estimated 2.8 per cent in 1997.

The ministers voted for the cuts without agreeing on which portions of the budget would be slashed, but the defence, education and social welfare sectors expect to be the targets of the biggest cuts. The pensions of career soldiers are also likely to be scaled back.

Mr Eli Yosef, finance ministry spokesman, said the issue of where cuts would be made would be addressed during two special finance sessions to be held early next week.

Mr Netanyahu is apparently determined to gain government approval of his economic plans before he leaves for the US next week, enabling him to tout its details to US business leaders and financiers.

The prime minister has been eager to implement plans for trimming Israel's bloated current account deficit and for selling state-owned businesses to offset his hardline political approach to Middle East peace.

After wresting power from Mr Shimon Peres in May, Mr Netanyahu inherited an economy with a current account balance of payments deficit that is forecast to widen to $5bn this year from $4bn in 1995. He also needs to try to curb an annual rate of inflation heading towards 15 per cent, against 8.1 per cent last year.

Mr Netanyahu's economic team is also facing new signs of an Israeli slowdown. The Bank of Israel said on Monday that its index of integrated indicators, a measure of overall economic health, declined in May to 0.7 per cent, its first retreat in almost two years.

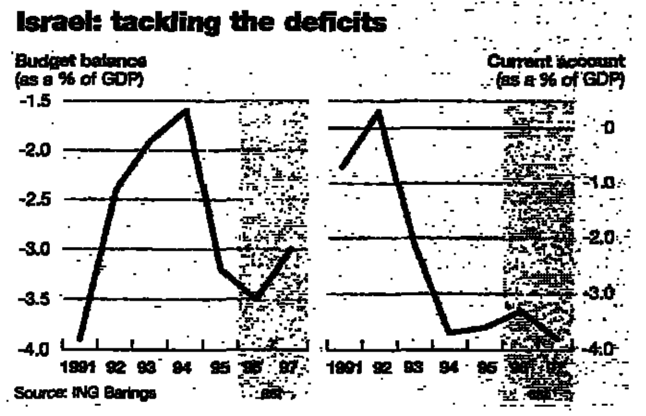
Markets welcomed the decision to pare the deficit, as shares that had been hovering quietly most of the day rose after the vote. The benchmark Mishtanim index of top 100 shares rose 0.60 per cent to 198.46 from 197.28.

Israeli workers and pensioners are not likely to swallow Mr Netanyahu's reforms so easily. Hundreds of thousands of public workers staged a one-hour strike on Monday to protest a planned sell-off of government assets. Bank and government offices, air and sea ports, and even Israeli Radio and El Al airlines closed for an hour as a warning against Mr Netanyahu's plans.

Mr Amir Peretz, head of Israel's umbrella labour organisation, the Histradrut, said: "To our dismay we will have to go out and fight against these decisions, which will hit salaried workers and disadvantaged populations." But he stopped short of threatening more stoppages.

Mr Dan Meridor, the finance minister, defended the plan to curb the deficit, warning that steps needed to be taken now lest Israel face "more severe cuts" further down the road.

Israel: tackling the deficits



Source: ING Barings

Benjamin Netanyahu (right) confers with Bank of Israel governor Jacob Frenkel before yesterday's cabinet meeting Reuter

INTERNATIONAL NEWS DIGEST

KwaZulu result good for peace

Final election results issued yesterday for South Africa's most unstable province, KwaZulu-Natal, showed President Nelson Mandela's African National Congress winning the towns while bitter rivals Inkatha took the countryside in the local elections, both with strong majorities. Political analysts said the equilibrium was good news for peace. "It would have been disastrous for peace if there had been a complete rout of Inkatha," said Kiru Naidoo, a political scientist at the University of Durban-Westville. Election officers declared the final result of last Wednesday's poll after six days of vote counting. The Inkatha Freedom Party won 44.5 per cent of the vote to the ANC's 33 per cent. The ANC's share of the vote remained largely unchanged since the historic all-race national election of 1994, but Inkatha lost six percentage points to smaller parties. *Reuter, Pietermaritzburg*

Copper broker suspends staff

Rudolf Wolff, the London-based metals broker, said yesterday it had suspended three employees in its Tokyo office as part of an internal inquiry into the firm's dealings with Sumitomo Corporation in the copper market. The three staff, all Japanese, were suspended on full pay pending the completion of Wolff's investigation, which includes a review of back office procedures. "There are some elements of paperwork that we need to follow through," the broker said.

The inquiry began after regulators in the UK and US asked all companies which had dealings with Sumitomo to review their records in the wake of the Japanese company's dismissal of Mr Yasuo Hamanaka, its former chief copper trader. Wolff said its Tokyo operation, which employs 10 people, produced only 4 per cent of annual worldwide revenues of about £45m, although Sumitomo accounted for a considerable portion of the Japanese business. *Clay Harris, London*

Capital penalty for dollar users

Sudan's government has threatened to execute Sudanese who use US dollars or other hard currency. Sudan fears the flight of much-needed hard currency, which it uses to pay $4m a month to the International Monetary Fund and to purchase an estimated $360m a year worth of oil. Police on Sunday arrested an undisclosed number of people suspected of dealing in hard currency, but their punishment was not immediately announced. Inflation is at 108 per cent, making the stable dollar increasingly more popular. The bank said the dollar was used to buy and lease real estate and for payment of hospital services. *AP, Khartoum*

Iraq poser for UN chief

United Nations chief Mr Boutros Boutros Ghali will have to overcome US objections to an Iraqi distribution plan for humanitarian supplies if an "oil-for-food" deal is to go ahead, diplomats and UN officials said yesterday. While legally Mr Boutros Ghali alone has to approve Baghdad's plan, the US and the other 14 Security Council members on a sanctions committee could block agreement of purchasing documents and contracts needed for each sale under the scheme.

Ms Madeleine Albright, US envoy to the UN, on Monday rejected the food distribution plan proposed last Thursday by Mr Abdul Amir al-Anbari, the Iraqi negotiator. She accused Baghdad of attempting to twist a purely humanitarian scheme, designed to provide ordinary Iraqis with food and medicine, by including such items as telephone-switching gear, computers and other equipment. *Reuter, Geneva*

Investors in Vietnam face stricter regime

By Jeremy Grant in Hanoi

Foreign investors who spent nervous months awaiting the outcome of Vietnam's Communist party congress before committing themselves to new projects were little the wiser yesterday, despite clarification of plans to plant Communist party cells into enterprises which have foreign investors.

Some changes are now expected in October, when the foreign investment law will be improved and there could be sweeping changes to top personnel in ministries in frequent contact with foreign businessmen.

But opportunities for foreigners could diminish after the congress pledged to beef up local industry and encourage a more selective approach to foreign investment.

Party officials at the meeting, which ended on Monday, stressed that foreigners were still welcome to invest. But a five-year plan said foreign money would be channelled towards areas "with advanced technology" and those that "have a high export ratio".

One aim is to attract foreign investors into strategic sectors where the Vietnamese lack capital, technology and expertise. Inflows have so far been tilted towards tourism, light industry and services at the expense of much-needed power and infrastructure.

Another is to push its lumbering state sector into import-substitution as a way of industrialising, and ensuring Vietnam is competitive enough to meet tariff reduction targets set for 2006, which it must meet under membership of the Asean Free Trade Area (Afta).

This could close off some sectors to foreigners. "There will be an increasing number of sectors officially closed to foreign enterprises or effectively closed," said Mr Chris Bruton, director for Thailand and Indochina at Bangkok-based Dataconsult.

Mr Do Quoc Sam, minister for planning and investment, said the foreign investment law would be amended in October to ease licensing bottlenecks and improve access to finance, but gave few details. The government would work with foreign companies to identify strategic projects. "The selection is a two-way process," he said.

Although economists give Vietnam credit for prioritising large-scale investments, crucial guarantees – such as being able to mortgage land and property – are not yet in place.

"When you talk about large projects, there's no way to finance them. Very few people are going to be able to reach into their pockets and produce, say, $200m just like that," said Mr Michael Scown, a lawyer with Russin & Vecchi in Ho Chi Minh City.

Meanwhile, all foreign joint ventures and wholly foreign-owned projects would have to allow the formation of Communist party cells in them within six months from the day the project started, according to Mr Nguyen Van Tu, president of the country's sole, state-controlled trade union.

"If they refuse (to allow them) we will insert people by ourselves," he said. "Right now there are very few party cells in foreign joint ventures. We need to have party cells in every one." He said their function would be to educate local employees on the party's work.

Their existence reflects an increased desire from the Communist party to see increased surveillance of foreign activity but are being seen by many businessmen as an irritant rather than a threat to operations.

Microsoft today launches the Vietnamese language version of its Windows 95 computer software system, following the passage of a copyright law on Monday, AP-DJ reports.

Microsoft is confident that the new law will be enforced. The law should reduce software piracy and foster the development of a Vietnamese software industry, the US company said.

Editorial Comment, Page 11

India emerges as world centre for software

By Mark Nicholson in New Delhi

India's software industry grew rapidly in 1995-96, with turnover up 61 per cent to $1.2bn, and similar growth is expected this year, according to the National Association of Software and Service Companies.

Exports, chiefly of software services, continued to outstrip the domestic market, rising 64 per cent to a record $734m, a Nasscom study shows.

However, the local market increased turnover by a record 57 per cent last year to more than $490m, helped by a steep cut in duties on imported software packages to 10 per cent in last year's budget.

The Nasscom figures show India is emerging as a leading world centre for software services, particularly to the US, which accounts for around 60 per cent of exports.

More than 100 of the top 500 US corporations now use on- or off-site software services from Indian companies, according to Mr Dewang Mehta, Nasscom's executive director.

Last year's growth compares with 45 per cent in the industry between 1991 and 1995. The sector employs 120,000 Indians in more than 700 companies, over 400 of which are exporters. It employed just 6,800 in 1985 and 56,000 in 1990.

India's software industry is distinctive in that export markets have eclipsed domestic sales throughout the past six years as Indian-based companies have exploited an ability to match high quality with relatively low labour costs.

More than 60 per cent of services are offered at the user's base, but Nasscom says off-site software services are rising as more Indian groups lease high-speed data communication lines.

Mr Mehta said sustained export growth had continued despite average salaries in the Indian industry having risen 35 per cent and 23 per cent respectively in the past two years.

Mr Mehta said the motor for domestic growth would be in the banking sector, which was about to embark on widespread computerisation.

"There are 6,400 branches of national banks in the country which, in the next three years, are set for complete computerisation." Nasscom estimates for the domestic software market, which expects turnover of $2.5bn by 2000, could double.

Exports could receive a further fillip through Indian companies offering solutions to the "millennium bug": the problem facing thousands of financial service and other companies worldwide whose software is not equipped to deal with the arrival of the year 2000.

He said 74 Indian software companies were offering solutions to the problem, which Nasscom estimated could earn India up to $1bn.

US election year politics puts free trade legislation on hold

Nancy Dunne tracks the record of a reluctant Republican Congress

Since it became Republican-controlled in January last year, the US Congress has failed to pass any trade liberalisation measure President Bill Clinton has been willing to sign.

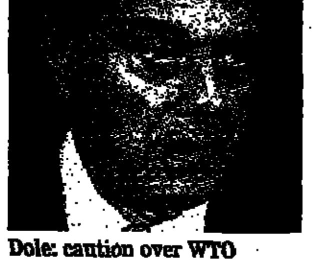
What has turned delay into indefinite hold-up is the fact that this is in an election year and politicians of both parties are uncomfortable pushing free trade when many Americans think imports are costing US jobs.

This has not been a factor in trade legislation the Congress has succeeded in passing – measures which have provided for sanctions against companies doing business with countries regarded as "outlaws", such as Cuba, Libya and Iran.

One of the most important hold-ups has been renewal of the Generalised System of Preferences, which provides about $430m worth of duty-free access on goods from developing countries. Renewal of the programme was contained in a budget bill sent to President Clinton, but it was vetoed because it was attached to domestic budget measures deemed unacceptable by the White House.

The 20-year-old GSP programme is not controversial – few members know what it is – but support for it among congressmen is considered "broad and thin" by trade officials. Eighteen Republican senators wrote to Mr Robert Dole, when he was still Senate leader, to warn that the lapse of the GSP was having "negative foreign policy implications". At the same time many small businessmen who rely on GSP inputs have suffered financial losses.

The House of Representatives has recently begun to move on trade matters. Last week it defeated by a surprisingly large 2-1 margin a measure to end China's most-favoured nation trading status – equivalent trading rights to most other countries. And it has granted the same free trade treatment to products from Gaza, West Bank and regional trade zones as that given to Israel. It has also granted MFN status to Romania and Cambodia.



Dole: caution over WTO

Another bill passed by the House contains a 30-month extension of a shipbuilding loan guarantee programme which could have the effect of killing a long-sought deal with other ship-building countries in the Organisation for Economic Co-operation and Development to curb state subsidies to the industry. The Clinton administration is hoping the bill can be "fixed" in the Senate but the trade unions are lobbying hard against it.

The OECD's deadline was June 15. A Senate vote could come in mid-July, but it could be delayed until September.

Another bill in the Senate, pushed by Senator Bob Graham, a Florida Democrat, is designed to help US tomato growers, who have asked the International Trade Commission for temporary protection from imports of Mexican tomatoes. The bill would make it easier for the ITC to recommend protection.

Before he resigned his seat to campaign full-time for the presidency, Senator Dole tried, but failed, to move long-planned legislation creating a commission of judges which would oversee rulings by dispute settlement panels of the World Trade Organisation. The legislation was supposed to have made it possible for Congress to take the US out of the WTO if any three decisions adverse to the US were judged by the commission to be "arbitrary or capricious". The Clinton administration had promised to support the bill in exchange for Mr Dole's backing for the establishment of the WTO as the successor to the General Agreement on Tariffs and Trade.

Meanwhile, trade officials have abandoned hope that Congress this year will give the president renewed "fast-track" trade negotiating authority that would allow the administration to negotiate Chilean accession to the North American Free Trade Agreement without Congress being able to amend the terms of the pact. The stalemate began over administration insistence that the pact include provisions on environment and labour, which Republicans opposed.

The US refused to go along with a WTO accord last year to liberalise financial services and balked at a deal on basic telecommunications in April. It has also failed even to table a negotiating offer in WTO talks on maritime services. Washington has argued, in all these cases, that its WTO partners' offers were inadequate. But other governments accuse the US of being unwilling to stand up to protectionist pressures from domestic producer lobbies in a presidential election year.

Lobbyists for greater trade liberalisation fear that the election in November may see the return of more protectionist congressmen as happened in the 1994 poll. They would replace many departing members who have long championed open trade initiatives but have grown weary of the battle.

WORLD TRADE NEWS DIGEST

Caricom fears deregulation

Leaders of the Caribbean Community (Caricom) meet today to speed up efforts to create a common market, amid concerns that the region's small economies are becoming increasingly uncompetitive because of deregulation in international trade.

The four-day meeting in Barbados will also consider the impact of the North America Free Trade Agreement on the region. Caricom is uncomfortable, too, with proposed changes to the Lomé Convention, a trade and aid treaty with the European Union which expires in 2000. Some Caricom governments fear that they will lose preferential markets for bananas and rum, and that their sugar sales will be reduced.

Officials say the creation of the common market is the only way the region can compete for markets. Caricom is made up of the English-speaking countries of the region, and Suriname, and has a market of 6m. However, some governments are worried that their economies could be damaged if their markets are opened fully to imports from more developed members of the community. *Canute James, Barbados*

Attica enters fast ferry race

Attica Enterprises, a Greek ferry operator, has ordered two high-speed car ferries costing $200m from Kvaerner Masa-Yards of Norway in response to growing competition on the Adriatic crossing. The Greek company already has two fast ferries in operation between Patras and Ancona, a route popular with both tourists and truck drivers.

In March, Minoan Lines, a Crete-based shipping company, ordered a $102m fast ferry capable of 27 knots from Fosen MEK Versteer of Norway for the Adriatic crossing. The new ferries will be built at Kvaerner's shipyard at Turku in Finland.

High-speed ferries, some with a single hull, others of catamaran design, are starting to make inroads into markets dominated by traditional ferries. Stena Line, the Swedish ferry group, is introducing them on routes on the Irish Sea and the English Channel. *Charles Batchelor, Transport Correspondent*

■ Kyocera, the Japanese electronics and chip component maker, has launched a joint venture with a Chinese camera maker to manufacture and market cameras and other optical instruments in China. The new company, capitalised at $19m, is expected to produce goods worth $109m in the initial year. *Reuter, Tokyo*

NEWS: ASIA-PACIFIC

Thailand's respected bank chief falls from grace

Ted Bardacke explains why a steady hand at the helm has had to resign

Vijit Supinit: thought to have compromised the bank's independence Reuter

As governor of Thailand's central bank Mr Vijit Supinit was used to being the centre of attention at a party. So it was clear the end of his career was nigh when he received the cold shoulder at a reception hosted by senior commercial bankers and finished the evening standing alone in the corner.

It was a sad moment. A central banker for 30 years, Mr Vijit had kept a steady hand on the helm at the Bank of Thailand, helping the country's economy weather everything from a military coup in 1991 and a sustained attack on the currency in 1995 to the still-present dangers of an overheating economy.

And he still found time to begin implementing a plan that has substantially liberalised Thailand's capital markets, providing the country with much-needed investment capital.

By the time Mr Vijit submitted his resignation yesterday, however, he was a spent force. Over the past six months, the former governor opened himself, and the bank, to unprecedented political meddling by seeking to increase the central bank's political clout with the year-old Thai government and endear himself to new bosses.

First, he was widely thought to have co-operated with Mr Surakiart Sathirathai, former finance minister, in sacking the highly respected Mr Ekamol Khiriwat as head of the Securities and Exchange Commission. Mr Ekamol, who was also deputy governor of the central bank and therefore a potential rival to Mr Vijit, had caused early problems for the prime minister, Mr Banharn Silpa-archa, by threatening to resign over "political interference".

Mr Vijit started an investigation into Mr Ekamol's affairs, including tapping phone conversations with top members of Thailand's financial community, which found the head of the SEC had "revealed state secrets".

Second, Mr Vijit is thought to have compromised the bank's independence. Many became wary when Mr Vijit said he would waive a key regulation preventing cross-holdings among financial groups to allow Finance One, the investment bank led by long-time friend Mr Pin Chakkaphak, to take over Thai Danu Bank.

And when the Finance One deal was closely followed by revelations that Mr Vijit participated in the decision to approve a stock market listing for a finance company in which he held shares, his reputation for probity suffered.

Impartiality is a particularly crucial concern for the Bank of Thailand because so much of the central bank's economic policy relies on a policy of "moral suasion" which can be highly discretionary.

In pursuing its tight money objectives, the bank has been unable to rely on instruments such as a discount rate or bond prices, both of which have little impact on the Thai market. Instead, commercial banks must toe the line on interest rates and credit growth for fear that the central bank might not approve things ranging from directorships to investments in hedging instruments.

Third, revelations that Mr Vijit soft-peddled for months on warnings that a medium-sized commercial bank, the Bangkok Bank of Commerce, was engaged in dubious lending practices proved particularly damaging. Led by the recently indicted Mr Kirkkiat Jalichandra, a former central banker who rose under the tutelage of Mr Vijit, the bail-out of the Bangkok Bank of Commerce is expected to cost Thai taxpayers as much as $3bn.

When the country's new finance minister, Mr Bodi Chunnananda, told Mr Vijit last month that it was time for interest rates to fall, posing a direct challenge to the central bank's so-far successful strategy of engineering a soft-landing for the galloping Thai economy, the governor could offer little resistance. Other bank officials questioned Mr Bodi's strategy, but the politicians have, for the moment gained the upper hand.

"The governor had to go," says Mr Graham Catterwell, head of equities at Deutsche Morgan Grenfell in Thailand. "The downward spiral of political intervention needs to be stopped and getting rid of Mr Vijit was the first step. But whether the trend will be broken or not depends on who is appointed as a replacement.

"The current government is particularly worrisome on this issue," he says. "We could be seeing the beginning of sustained political intervention in the affairs of the Bank of Thailand."

Seoul to seek cut in import spending

By John Burton in Seoul

Mr Kim Young-sam, the South Korean president, yesterday urged a halt to overseas holidays and consumer spending on imported luxury products as part of a campaign to reduce the country's yawning trade deficit.

Mr Kim's remarks were in response to a new government estimate that the current account deficit this year will grow to a record $11bn-$12bn.

The widening deficit reflects the effects of currency appreciation, falling international prices for key export products, a surge of spending for imported consumer products, and increased travelling abroad by Koreans.

Addressing an emergency meeting of economic ministers, Mr Kim said the growing deficit also served as a warning that Korea was losing its international competitiveness due to fundamental economic problems, such as rising wage costs, low productivity growth, and a heavy dependence on a few export products.

In an attempt to halt a sharp rise in wages caused by a tight labour market, the government decided to increase the number of imported workers from 20,000 to 30,000 and extend their contracts from two to three years.

Officials will also attempt to broaden Korea's industrial base by expanding into new sectors, such as environmental technology, and promote advanced products in existing industries, such as developing non-memory semiconductors and high-definition television.

However, the government acknowledged that these programmes would not benefit the economy in the short term. In an effort to maintain economic growth at 7 per cent this year, spending will increase for infrastructure projects to offset the impact of a slowdown in exports and resulting cutback in industrial investments.

There was also concern about a rise in the inflation rate above the official target of 4.5 per cent for this year.

Japan to throw money at research

William Dawkins reports on doubts that spending target will be met

The Japanese government yesterday moved to quash an old cliché, that Japan is good at developing existing ideas but weak at dreaming up new ones.

It aims to correct that shortcoming with a five-year "master plan" to spend Y17,000bn ($155bn) on science and technology, agreed by the cabinet yesterday. The scheme is not quite as spectacular as it looks, because it merely confirms a four-year-old cabinet decision and has been shorn of important details such as exactly whether and even when the money will be spent.

That said, the target is grandiose: to lift public research spending to Y4,300bn a year by early next century, double the annual rate when the plan was first proposed by the government's Science and Technology Agency in 1992, and nearly 80 per cent more than this year's Y2,700bn state research budget.

Whether the agency will really meet that target is uncertain, because the tight-fisted Finance Ministry will continue to control each year's research budget. Ministry officials are unwilling to release the cash without a clearer idea of the content, as yet vague, of the research programme. Yet the cabinet's approval marks the clearest official recognition to date that, for all its excellence at applied technology, Japan is behind in innovation.

Anybody visiting the research laboratory of a Japanese university can see why. Equipment is out of date, the staff are underpaid by comparison with western counterparts and industry links are almost non-existent. "Many Japanese companies find it easier to work with a US or UK university than with a Japanese institution," observes a European scientist working in Tokyo.

The point is underlined by recent setbacks at three of Japan's flagship technology projects, last December's leak at an experimental fast breeder nuclear reactor and the loss in February of an unmanned prototype space shuttle, which sank in the Pacific ocean after a rope attaching it to a buoy broke. A year earlier, a scientific satellite spun out of orbit and plunged into the Pacific.

The Science and Technology Agency hopes the plan will address two problems: a shortage both of quantity and quality of basic research.

Japan is the world's second largest spender on research and development, $130bn in the current fiscal year to next March, according to official data. Yet the public sector pays only a fifth of the total, by comparison with the roughly 50 per cent of national research spending born by the US government, says the agency. The US defence budget explains nearly all the difference. The Japanese military, bound by a pacifist constitution, carries out very little research. Yet the German government, with a similar constraint, funds 30 per cent of its national research, points out the Japanese agency.

The Japanese government spends around 0.6 per cent of gross domestic product on research, just over half the 1 per cent or so spent by the US and Germany, it adds. More worrying, private sector research has declined in each of the past three years, for the first time since the second world war, in the general corporate cost-cutting drive induced by the recession.

Agency officials forecast that Japan's 600,000 private and public sector researchers will dwindle to just over 500,000 in 2005, as a consequence of the country's ageing demographic profile and the unpopularity of basic research jobs.

The agency highlights "low flexibility and competition" in public research institutes, which tend to be staffed by lifetime employees. Under the new plan staff will, like western counterparts, be put on short-term contracts for the life of their project and be allowed to hold second academic jobs.

Quality of basic research is harder to measure than quantity. An agency paper bemoans the rarity with which foreign scientists quote Japanese research results, and the paucity of Japanese natural science Nobel prize winners – only 1.2 per cent of the total.

An even more damning verdict came from working international scientists. Of 87 young researchers from around the world, taking part in a Japanese-sponsored "human frontier" programme, only two – both Europeans – chose to pursue their studies in Japan. The hope is that Y17,000bn will be enough to attract the best creative brains to work in Japanese laboratories.

Japan's low achievement in the science prize

Nobel winners

Country	Physics	Chemistry	Physiology/ medicine	Total
US	55	37	70	162
UK	20	23	22	65
Germany	19	27	14	60
France	11	7	6	24
Sweden	4	4	7	15
Switzerland	2	5	5	12
Former USSR	7	1	2	10
Netherlands	6	2	2	10
Austria	3	1	4	8
Denmark	3	–	5	8
Italy	3	1	3	7
Belgium	–	1	4	5
Japan	3	1	1	5
Others	6	7	10	23
Total	142	117	155	414

Source: Science and Technology Agency

ILO urges change to labour law

By Robert Taylor, Employment Editor

South Korea has been strongly criticised by the Geneva-based International Labour Organisation over its restrictive industrial relations laws and was told to let workers join the trade union of their choice.

The ILO governing body has just accepted a report from its freedom of association committee calling on the South Korean government to modernise labour legislation that has been in force since the dictatorship of President Sygman Rhee in the 1950s.

South Korea is pressing hard to become a full member of the Organisation for Economic Co-operation and Development and a decision on its application is expected in the autumn. But unless changes are introduced to ensure trade union freedoms observers believe it is unlikely the country's membership will be accepted.

The ILO committee criticises last November's arrest and detention of Mr Kwon Young-kil, president of the Korean Confederation of Trade Unions (KCTU) and the government's refusal to recognise that organisation as lawful.

Under Korean law only the Federation of Korean Trade Unions is accepted by the government.

The ILO calls on all charges brought against Mr Kwon to be dropped and urges the government "to ensure trade union leaders are not arrested and detained for activities in connection with the exercise of their right to organise". Mr Kwon was released from prison on March 13 this year.

"The government's arguments for not registering the KCTU because it violated national laws are not persuasive since these laws are not in conformity with the principles of freedom of association," says the ILO report.

It urges the South Korean government "to take appropriate steps so the KCTU is registered as a trade union confederation".

A presidential commission has recently been established in South Korea on industrial relations reform to propose changes to bring the country's labour legislation into line with the government's commitments to ILO core conventions it signed four years ago.

HK ruling on video services

By Louise Lucas in Hong Kong

The Hong Kong government yesterday ended a long-running industry battle by declaring that "video on demand" services should be subject to the same regulations governing other television services.

The move comes after heavy industry and consumer lobbying which culminated in a court case, launched by Wharf Cable, the television arm of the property-to-infrastructure company Wharf Holdings.

Wharf Cable holds the exclusive pay-TV franchise for the colony and argued the government's decision to allow Hongkong Telecom, the colony's dominant telephone services provider, to proceed with commercial trials of its own video on demand service breached Wharf's franchise. Wharf has been seeking confirmation video on demand was a broadcast service and so subject to the same rules and regulations as other broadcasters.

Hongkong Telecom said its ambitious plans for video on demand and related services such as home banking and shopping would make it the first provider of these multimedia services as a single package. It argued that as its service was delivered down telephone lines it should merely be regulated by the Telecommunications Authority, the telecoms watchdog. Now it will be subject to the same ownership and control restrictions as its broadcasting peers, and will also have to pay royalties in respect of subscription and advertising revenues.

Yesterday, the government further acknowledged industry complaints by agreeing to cut the rate of royalties paid by the territory's two terrestrial stations, Television Broadcasts (TVB, in which Pearson, owner of the Financial Times, has a 10 per cent stake) and Asia Television (ATV).

TVB, the larger of the two and the most vociferous in calling for a reduction, last year paid HK$220m (US$28m) in royalties. It has argued that the levy of 10 per cent of advertising revenues exceeds the levies imposed on monopolies such as utilities, and that far from having a monopoly it shares the market with a profusion of cable and satellite broadcasters.

ASIA-PACIFIC NEWS DIGEST

Singapore homes boom cools

Growth in Singapore's residential property market has slowed in the second quarter following strong expansion in the first three months of the year, UK property consultant Jones Lang Wootton said yesterday. "The private housing market, which had threatened to boil over in the early part of this year, has simmered down in the second quarter," it said in a report.

The report gave no reasons for the decline, but the Singapore government in May introduced a series of surprise measures aimed at cooling property speculation and damping prices. The report said average capital value appreciation for apartments and condominiums slowed to 3.7 per cent in the second quarter compared with 5.9 per cent for the first quarter. "Whole island average capital value now stands at $840 per square foot," it said. *Reuter, Singapore*

Australia trade deficit increases

Australia's current account deficit for May soared to a seasonally adjusted A$2.15bn (US$1.7bn), up from a revised figure of A$1.97bn for April. This was the first time in six months that the monthly figure had topped the A$2bn mark. The data rekindled memories of early 1995, when the country's deficit was regularly topping A$2bn a month, peaking at A$2.7bn in May 1995.

The latest figures showed merchandise exports falling by 4.3 per cent, or A$275m in the month. Rural exports suffered a 3.8 per cent slide while non-rural exports dipped by 4.5 per cent. Merchandise imports were also lower – but by only 1 per cent, or A$70m. But while the May deficit was larger than most private sector economists were expecting and the Australian dollar and local bond prices dipped on the news, some analysts suggested that the situation should now stabilise – albeit at uncomfortably high levels. *Nikki Tait, Sydney*

Manila peace plan attacked

President Fidel Ramos yesterday came under attack by Christian groups for agreeing to an autonomous zone in the south of the Philippines to be controlled by the country's largest Moslem rebel group. On a visit to Mindanao, home to most of the country's 5m Moslems, Mr Ramos was accused of selling out to the Moslem rebels 24 years after the insurgency began.

The deal, due to be signed at peace talks in Jakarta later this month, provides for a "peace and development council" for the southern Philippines to be dominated by Moslem officials. Mr Nur Misuari, chairman of the Moro National Liberation Front, who returned to the Philippines from exile in Saudi Arabia for the peace talks two years ago, has been invited to head the autonomous body for three years until a referendum can be held to determine the scope of the autonomous area.

Leaders of the Christian residents of the 14 provinces to be included under the accord, who claim that 50,000 people have died in the fighting since 1972, told Mr Ramos that Moslems constituted barely 30 per cent of the area's population. *Edward Luce, Manila*

Mongolian election rout

Mongolia's opposition Democratic Union Coalition won 50 of the 76 seats in parliament in final results yesterday, routing the former communists who had held power for 75 years. The ruling Mongolian People's Revolutionary party (MPRP) had yet to make an official comment on its crushing defeat, but US election observers said government leaders had given assurances they would co-operate to ensure a smooth transfer of power. The MPRP saw its 70-seat majority in the Great Hural, or parliament, slashed to just 25.

"It's a revolution," Mr Hashbat Hulan the victorious coalition leader said in an interview. "All our polls suggested this, but we did not expect this." *Reuter, Ulan Bator*

Home sales increase interest rate pressure

By Michael Prowse in Washington

New US home sales soared to their highest level in a decade in May, increasing pressure on the Federal Reserve to signal an early increase in short-term interest rates.

The Commerce Department said sales rose 7.5 per cent to a seasonally adjusted annual rate of 828,000, the highest level since April 1986. The figures surprised Wall Street as most economists had projected a decline in sales of about 3.7 per cent in response to recent increases in mortgage rates.

In a separate report, the Conference Board, a business group based in New York, said the index of leading economic indicators rose 0.3 per cent in May to its highest level in more than a year. The leading index is designed to predict changes in economic activity six to nine months ahead.

The figures were released shortly before Fed governors and regional presidents began a two-day meeting to discuss interest rate strategy. In recent days analysts have speculated that the Fed would delay an increase in rates until its meeting in late August. By then, analysts argued, the Fed would be better able to judge whether a recent surge in economic growth posed a serious inflationary threat.

Buoyant data this week, however, may have strengthened the hand of Fed policy makers seeking an early increase in rates.

On Monday, the purchasing managers' index rose sharply to its highest level in 16 months, signalling a strong rebound in manufacturing industry. This followed figures showing big increases in employment, industrial production, retail sales and new orders in May.

Figures early next month are expected to show economic growth at an annual rate of about 4 per cent in the second quarter – well above the pace the Fed regards as compatible with stable inflation.

Yesterday's data on home sales indicated the recent sharp rise in long bond yields has done little so far to curb demand for housing, one of the most interest-sensitive sectors of the economy. Rates on 30 year mortgages averaged 8.09 per cent in May, more than a percentage point higher than in January.

The rise in the leading index for a fourth consecutive month indicated the economy was likely to remain strong for the rest of this year. The main components pushing up the index were increases in sensitive materials prices, a longer factory working week and higher orders for plant and equipment.

Another arrest in probe of paramilitary right

By Christopher Parkes in Phoenix

US federal authorities yesterday announced another arrest in an alleged paramilitary plot to bomb government buildings in Arizona, bringing to 13 the number of people detained.

The latest arrest took place late on Monday, shortly after the government had held 12 alleged militia members in Arizona on conspiracy and explosives charges, following one of the most successful reported covert actions against armed anti-government groups in the US.

On Monday, 10 men and two women were charged, all said to be members of the Viper Militia, and 400lb of fertiliser, similar to that used in the deadly April 1995 bombing of the Oklahoma City federal building, was seized. The move came nine months after an Amtrak train was derailed in Arizona, apparently by dissidents calling themselves Sons of Gestapo, and shortly after the surrender of a group of Montana "freemen" at the end of a siege by federal agents.

The arrests followed a six-month investigation during which a state police officer is understood to have infiltrated the group and gathered information on meetings and secret training in the desert with home-made bombs.

As well as the explosive chemicals, and three unregistered machine-guns, arresting agents seized a videotape showing how best to place charges to ensure a bombed building's collapse.

Mr Raymond Kelly, Treasury under-secretary for enforcement, said on Monday some search warrants had not yet been fully executed, "so it's possible there could be more arrests".

The indictment, unveiled in Phoenix, also included alleged references by the accused to home-made rockets powerful enough to destroy a police car, and the need for explosives "to take out tanks in the upcoming war with the government."

Ms Janet Napolitano, federal prosecutor responsible for Arizona, said the Viper members were suspected of having planned to blow up half a dozen buildings including the Phoenix police department headquarters and buildings housing the Federal Bureau of Investigation and the Internal Revenue Service.

The Viper Militia was unknown to most Arizonans before Monday's arrests, but the state is home to several dissident groups. Most are rightwing, self-styled white supremacist or "patriot" gangs. Prominent individuals in the milieu include several police officers, according to the Anti-Defamation League, an arm of the Jewish organisation B'nai B'rith.

Colombia protests at US policy

By Timothy Ross in Bogotá

Colombia's foreign ministry has protested strongly at what it calls US interference in internal political affairs, warning that Washington's "incorrect and unjust policy" could deepen "growing anti-American feelings" in Colombia.

The protest follows publication in The Washington Post on Sunday of a memorandum from Mr Myles Frechette, US ambassador to Colombia, recommending that his government impose sanctions against Colombia and cancel the US visas of President Ernesto Samper and senior members of his government so as to "isolate and weaken" him.

The report of the memorandum, which has not been denied by Washington, follows an unprecedented deterioration in US-Colombian ties over the past year, amid charges that Mr Samper's presidential election campaign in 1994 was partly financed by drug traffickers of the cartel based in the Colombian city of Cali.

Last week, Ms Janet Reno, US attorney-general, requested the extradition of four top Colombian drug traffickers. The Bogotá government rejected the request, on the grounds that extradition was banned by Colombia's 1991 constitution, although the US insists that an earlier treaty remains valid.

The newest political tensions have set off a debate in Colombia about reviving extradition, and the prosecutor-general has proposed studying a possible constitutional reform to reinstate what he calls "a valuable tool against international drug trafficking."

The Colombian government communiqué accuses the US of endangering democratic stability and it rejects sanctions, unilateral actions and "discourteous statements that wound national dignity."

US election campaign issues and Colombia's own problems, says the document, should not get in the way of co-operation against drug trafficking.

Republican standard bearer alleges pro-Democrat bias

Dole snarls at TV networks

By Jurek Martin in Washington

Mr Bob Dole yesterday charged that TV networks in the US may be violating laws "by always sticking up for Democrats".

In a testy morning TV interview, the presumed Republican presidential candidate suggested that the media and the Democrats had deliberately taken out of context comments in which he had implied that cigarette smoking was not necessarily addictive.

"I've said I don't know whether it's addictive, I'm not a scientist," Mr Dole said. But, he went on, "are we going to regulate everybody's adult life? Adults ought to be free to make choices."

The tobacco industry was "in a legal business" and it was "hypocritical" of the Democrats, who had accepted money from tobacco companies, and of their allies in the "liberal elite" media to suggest that he was in their pocket.

"Only people like you in the media don't question the Democrats and how much money they receive," he said. Implying clear collusion, he said the networks could be in violation of Federal Communications Commission laws on political neutrality in broadcasting.

There is nothing new in the Republican conviction that leading media organisations are tilted towards the Democrats. But the refrain has been picked up with vigour over the last two weeks.

Mr Dole himself does not enjoy close relationships with the reporters covering his campaign, their access to him being limited. That has resulted in some fairly cool reporting of his efforts to date.

That may be contrasted with Mr Bill Clinton's serious attempts to court the media during his presidential campaign in 1992. These, Republicans believe, helped to insulate Mr Clinton from the assorted allegations related to the Whitewater affair and to personal matters that, at various times, threatened to undermine his bid for the White House.

Three and a half years in the presidency, however, have cooled any romance between Mr Clinton and the press, with his re-election campaign now subject to a degree of scrutiny certainly equivalent to that directed at Mr Dole.

The latest round of opinion polls still shows the president with a healthy lead. A Washington Post/ABC survey, published yesterday and conducted late last month, found it down to 14 points, from 22 in mid-May, mostly because of Whitewater and other allegations. But another national survey, which had given Mr Dole hope with its report of a six-point deficit a month ago, now puts the gap at 19 points.

Mr Dole is also still fighting controversy over his stance on abortion. On Monday, he appealed to moderate Republicans by stating he could accept a vice-presidential running-mate who was not pro-life and yet again ran into a buzz-saw of outrage from religious and cultural conservatives.

Asked by a TV talk show host if a prospective vice-president's position on abortion would be a major factor in his choice, Mr Dole said defiantly: "Not to mine. To others it might make a difference, but I'm the nominee."

He even said he had no problems with the pro-choice beliefs of Governor Christine Todd Whitman of New Jersey. However, she issued a statement praising Mr Dole's stand but reaffirming she did not want to be a candidate.

Test for Chile's central bank

Resignation of chief raises autonomy questions, writes **Imogen Mark**

The resignation of Chile's central bank president last week after a prolonged struggle within the board of directors has cast doubt on the extent of the bank's autonomy.

Mr Roberto Zahler, who had been due to leave in December when his five-year term expired, announced his resignation on Friday, after banking business had closed for the weekend.

His brief statement referred to "situations in recent months" which made it impossible for him "to continue leading the central bank according to what I think are basic principles".

Mr Zahler has not elaborated on his statement.

He worked closely with the previous finance minister, Mr Alejandro Foxley, but was known to get on less well with the present minister, Mr Eduardo Aninat. Mr Zahler had publicly criticised the government's reluctance to cut spending, though both ministers had run steady fiscal surpluses.

The central bank's institutional role is to guide monetary policy, and Mr Zahler made it his personal mission to bring down inflation gradually but steadily, which he has succeeded in doing – from 27 per cent in 1990 to 8.2 per cent last year. This year's target of 6.5 per cent looks just about within reach.

But though the government agrees on the overall aim there have been public differences about whether or how much growth should be sacrificed in the anti-inflation cause.

In April, the two central bank board directors closest to the government, Mr Pablo Piñera and Mr Jorge Marshall, the vice-president, are believed to have voted against Mr Zahler on a new round of interest rate rises.

All the central bank directors are appointed, for varying terms, by the president, with some consultation with the opposition. The political balance now favours the governing coalition, with three of the five having been appointed after Chile's return to democracy. Mr Zahler himself is a Christian Democrat, but was named at the end of the military government, when technical excellence was the overriding criterion for the then-opposition candidates.

The real sticking point on the board, however, has been the long negotiations over repayment of old bad debts owed to the central bank by five local banks. These date back to bail-out packages arranged during the bank crisis of 1982-83, when much of the banking system was technically insolvent.

At the end of the military government in 1989, the status of the debts was changed to allow the banks to put them off the balance sheet, as subordinated debt, with no term for repayment. The aim was to make sure that the incoming democratic government could not use the debts as an argument for nationalising the affected banks.

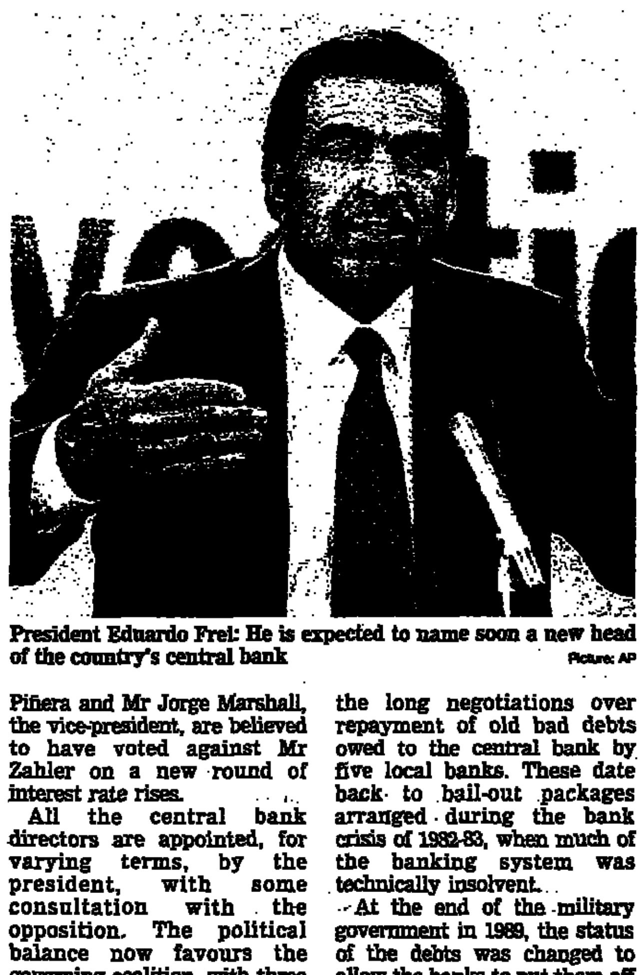
But it also meant that the central bank had no means of pressing for repayment, beyond a percentage of annual earnings. Relations between Mr Zahler and some of the debtors, particularly the Banco de Chile, until recently the biggest private bank, became very strained.

The previous and the present government opted to liberalise the banking law in exchange for setting new rules for the debt repayment. By the time the rules were agreed last year, most of the banks had chosen to repay their obligations. Only the five most heavily indebted, including the Banco de Chile and the Banco de Santiago, remained.

The central bank board has been negotiating new terms with each of the five in recent weeks, and reached firm agreements with two, including Banco de Chile. But Mr Zahler had apparently held out for tougher terms, while Mr Marshall is said to have argued for a softer position, to get the issue out of the way once and for all. Mr Marshall's position carried the day in the board, and Mr Zahler resigned.

The government and the central bank expressed formal regret at his departure and paid tribute to his professional competence and dedication. The government and the board restated their commitment to maintaining the bank's autonomy, and to the economic programme for 1996.

But the real test of how independent the government will allow the central bank to be will come when President Eduardo Frei names Mr Zahler's successor, within the next few days. The new bank president will have to possess both a strong character and considerable negotiating skills to maintain effective autonomy.



President Eduardo Frei: He is expected to name soon a new head of the country's central bank Picture: AP

$50m embezzlement charges levelled at treasurer of national agency

Welfare official held in Mexico

By Leslie Crawford in Mexico City

The treasurer of Mexico's Social Security Institute (IMSS) has been jailed on charges of embezzling 360m pesos ($50m) from the agency, which handles the pensions and savings of more than 9m Mexicans.

Mr Carlos Tomás Peñaloza Webb, the treasurer, was accused late on Monday of having defrauded the institute with the alleged connivance of two employees of a Mexican brokerage house.

According to Mr Arsenio Farell, Mexico's comptroller-general, Mr Peñaloza Webb authorised numerous stock market transactions during 1994 and 1995, which generated huge profits for the brokerage house and respective losses at the treasury of the IMSS.

The brokerage's profits were then, it is alleged, transferred to bank accounts which Mr Peñaloza Webb held in the US.

He is the first senior civil servant to be jailed on charges of corruption under President Ernesto Zedillo's government.

The move is expected to help the president in his drive to reform the IMSS, which operates a mammoth bureaucracy with more than 300,000 employees and a budget bigger than that of Pemex, the state-owned oil monopoly and Mexico's biggest company.

This year, the Mexican Congress approved a bill to privatise the country's pension fund system.

Under pressure from nationalist politicians, however, a role larger than expected role was reserved for the IMSS, which will be allowed to set up its own company to run pension funds and thus to compete with private-sector financial groups.

Caracas sees inflation fall

By Raymond Colitt in Caracas

Venezuela's monthly inflation rate fell in June to 7.1 per cent from 12.6 per cent the previous month. It was the first fall since March this year.

The government has forecast that monthly inflation will fall steadily to 2 per cent by year-end. However, analysts say a recently approved sales tax increase from 12.5 to 16.5 per cent and expected utility rate rises will add to inflationary pressure in July and August.

The government in April implemented austerity measures that included a sevenfold petrol price increase and resulted in a 40 per cent depreciation of the national currency, the bolivar. Inflation for the past 12 months now stands at 108.1 per cent, compared with 61.2 per cent for the previous 12 months.

Mr Luis Berrizbeitia, executive director of the International Monetary Fund, said: "The inflation rate of June is behaving practically according to what was estimated under the macroeconomic stabilisation programme." He expected monthly inflation to be about 1.5 per cent by year-end.

● The Andean Development Corporation (CAF) this week granted Venezuela a $200m loan to help support and restructure its banking sector. The six-year loan will be disbursed in two tranches later this year and carries an interest rate of 2.45 per cent over Libor. The CAF said: "This is the most important CAF loan to Venezuela and the first multilateral credit approved to help reform Venezuela's financial system".

Venezuela expects additional loans of up to $400m each from the World Bank and the Inter-American Development to reform its banking sector. Rescuing the industry in 1994 cost more than $7bn. The CAF also approved loans of $168m to Colombia, $62.5m to Ecuador and $37.1m to Peru.

IBM sues over job in Argentina

By Matthew Doman in Buenos Aires

IBM, the US computer giant, yesterday began legal action against Argentina's state-owned Banco Nación, seeking payment for work already done on a controversial $249m computer installation contract recently cancelled by the bank.

The contract is the subject of a criminal investigation which has led to the indictment of 30 IBM staffers and Argentine government officials accused of having defrauded the bank and the state. Banco Nación cancelled two weeks ago the contract to install computers serving its 525 branches, citing "the impossibility of completing the contract's objectives".

IBM said yesterday that it would seek payment for work performed, costs incurred and other unspecified damages arising from what it called the bank's "wrongful revocation" of the contract.

"IBM Argentina has worked hard to complete this project and to meet Banco Nación's changing requirements," said Mr Wilmer Guecamburu, president of IBM's Argentine operations. He said IBM would have preferred an "amicable agreement" with the bank, but Nación's annulment of the contract had left it with no alternative but "to go to court to protect our legal rights".

IBM, which is seeking damages of $86m, claims Banco Nación failed to carry out its obligations under the contract and improperly changed technical requirements, making it impossible for IBM to fulfil the contract. The bank made no comment on IBM's legal action.

The indictments of senior IBM staff members, virtually the entire bank board and several other officials in April followed a six-month investigation into allegations that bribes were paid to win one of the biggest information technology contracts in Latin American business history.

Profit of $1.8bn expected on 1993 account

By Ralph Atkins, Insurance Correspondent

Lloyd's of London will next week mark the end of five loss-making years by reporting a £1.18bn ($1.8bn) profit for the 1993 account, according to estimates yesterday. They suggested that there would also be an additional £400m bonus for Names underwriting that year.

The estimates by Chatset, the Lloyd's analysis organisation, highlight the turnaround at the insurance market which has reported losses of more than £8bn since 1987. Lloyd's reports three years in arrears. But Chatset warned that "ill-feeling" could be created by benefits for Names underwriting in 1993 resulting from the insurance market's recovery plan. Names are individuals whose assets have traditionally supported the insurance market.

As part of the plan, Lloyd's is setting up Equitas, a big reinsurance company which will take responsibility for billions of dollars of mainly US asbestos and pollution liabilities. Many Names will have to pay towards the cost of Equitas. But the high level of financial reserves held during 1993 means that those underwriting will receive a £400m release.

Chatset warned that the extra funds might cause resentment among badly affected Names who could not afford to continue underwriting in 1993. It also suggested that the distribution to 1993 might have been better allocated to strengthening the reserves of Equitas.

Lloyd's said "rough justice" was inevitable under the plan. It pointed out lossmaking Names would benefit from a £3.1bn out-of-court settlement offer which was also part of the plan. Equitas offered a cost-effective way of capping Names' liabilities, allowing them to leave Lloyd's. Chatset acknowledged that the recovery plan "is pretty attractive for most Names".

The 1993 profit figures reflect the turnaround in the international insurance business after a bleak start to the decade. Chatset estimates returns on "capacity" – the amount of business Names are able to underwrite – were as high as 20 per cent on marine business, before taking account of the Equitas release. Return on capital would have been at least twice as high.

In 1994, Lloyd's is expected to have made a further £1bn profit. The following year's profits were affected by a downturn in motor insurance premium rates but are still expected to reach about £750m.

However, this year's figures could mark a significant deterioration. A survey released yesterday by the London Insurance and Reinsurance Market Association, representing non-Lloyd's insurance companies in the UK capital, showed premium rates for "reinsurance" policies continuing to fall. That could put pressure on profit margins across the market.

Mr Stephen Riley, chief executive of Swiss Re (UK), said premiums "are about to cross the murky water between what is just about an acceptable commercial rate and an unacceptable rate".

● Lloyd's confirmed it could set up a separate reinsurance company to take over the liabilities of US Names if it was prevented by state securities regulators from offering Equitas cover in the US. A Lloyd's insider described the option as a "contingency plan".

Mars wins court fight over hat messages

By Jimmy Burns in London

The men and women in plastic bowler hats have cast an unfortunate shadow over the celebrations among the organisers of the generally successful Euro 96 football championship. For much of the three-week championship, the bowler hats, worn mainly by thousands of English fans, became a familiar site on TV screens around the world.

But it has emerged that they have also cost ISL marketing, the Swiss-based company with exclusive rights for organising the sponsorship of the tournament, an undisclosed sum in legal fees as a result of an unsuccessful court action in London to have them banned.

ISL was yesterday still licking its wounds from the courtroom scrap with Mars, one of the sponsors of the tournament, whose "Snickers" logo together with England's St George's cross were prominently displayed on the hats.

ISL argued that Mars had violated the principle of "equality of branding on site" accepted by all the tournament's sponsors by distributing hats near Wembley stadium before all the main matches. Coca-Cola is thought to have led earlier complaints by other sponsors about the bowler hats.

"We felt that equality was a fundamental issue at the heart of the sponsorship we sell," Mr Tom Hipkins, ISL's senior counsel, said yesterday in Lucerne. "It would be unfair to characterise this as a Coke/Mars issue. It was the subject of concern for other sponsors, too."

Mars was unrepentant yesterday. "We believe we were doing nothing wrong and that the court case was unnecessary," Mr Steve Clarke, the company's events marketing manager said yesterday.

The company argued in court that there was nothing in its agreement with ISL prohibiting the sale of plastic bowler hats in and around Wembley stadium Underground station. Mars added that it had obtained a licence to sell the bowler hats from the local council.

ISL and Mars are contractually bound to work together in the 1998 World Cup in France. "We have to organise ourselves in such a way that we can preserve equality in the future," said Mr Hipkins.

'French' climate ahead for London, say scientists

By Clive Cookson, Science Editor

Global warming will widen the UK's climatic gap between the wet north and the dry south, a government review of climate change warned yesterday.

The UK Climate Change Impacts Review Group, an independent scientific panel reporting to the Department of the Environment, predicts that the north and west of the country will become even wetter over the next half-century, with more flooding.

The south and east will become drier, with frequent droughts. The climate of the London area in 2020 will be like that of the Champagne or Loire regions of France today; by 2050 it will be like Bordeaux.

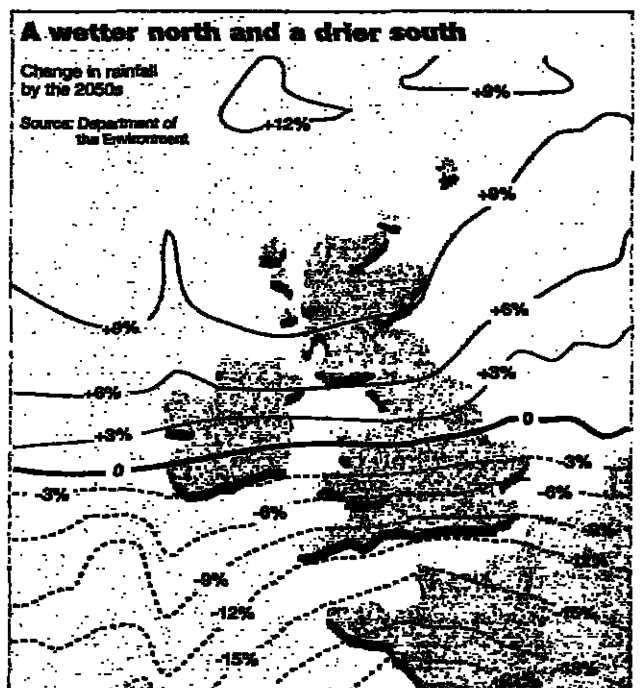
Mr John Gummer, environment secretary, attacked "sceptics who refuse to believe the evidence before them". He said that, at a UN-sponsored conference on climate change in Geneva next week, he would call for further cuts in the emissions of "greenhouse gases" – mainly carbon dioxide from burning fossil fuels – by developed countries. UK emissions are expected to be between 4 and 8 per cent below 1990 levels by 2000, he added.

Professor Martin Parry of University College London, who chaired the review group, said some sectors would benefit from the climate changes but a larger number would lose out. Likely beneficiaries include: tourism and recreation; forestry (with a predicted 15 per cent increase in yields); and farming in some upland regions.

There is a longer list of losers. Farmers in most of England will suffer from soil erosion and reduced crop yields. Wildlife will find it difficult to adapt as climate zones move northwards by 200km over the next 30 years. There may be new human health problems, for example if insect-borne diseases become established in warmer conditions.

The insurance industry is vulnerable, the report says. Drought-related subsidence, storms and flooding will all cause more insurance claims.

The review predicts an increase in the UK average temperature from 9 deg to 10.6 deg by 2050. At the same time, the global sea level will rise by 35cm.



Brussels warns of threat to regional funding

By Richard Wolffe in Birmingham

The European Commission warned business leaders yesterday that regional funding would be jeopardised if Britain withdrew from closer European union.

Alongside a stinging attack on government policy towards the European Union, Mr Graham Meadows, director of regional policy at the Commission, said the UK's opposition to a single currency was likely to deprive struggling areas of industrial support.

Speaking at the national conference of the British Chambers of Commerce, Mr Meadows suggested the UK would be excluded from "flanking policies" designed to help member states move towards a single currency. Those inside a single currency would not allow the UK "to steal their benefits", he added.

His attack on British policy was echoed by Mr Geoffrey Martin, head of the European Commission office in Great Britain, who condemned Conservative Eurosceptics for wanting to stop closer union and return to the days of the common market. "Taken together, the policies of Euroscepticism are tantamount to withdrawal from the European Union and are fundamentally at odds with the wishes of the 14 other member states," he said.

However Mr Ian Lang, the chief industry minister, robustly defended the government's position, stating that a single currency was not central to the single market even though a straw poll among delegates revealed overwhelming support for monetary union.

He said: "As far as we are concerned the single market is the most important component of our economic activity in Europe, and that does not require a single currency."

Mr Lang also criticised Labour's policy of devolving power to the regions, arguing that inward investors would be discouraged by the concept of a "Europe of the regions".

"The way forward is a Europe of nation states, with their own, vigorous, distinctive and outward-looking regions," he said. "The regions of England are not regions of Europe, and nor are Scotland, Wales or Northern Ireland. They are parts of the enterprise centre of Europe – the United Kingdom."

● A small majority of UK exporters are opposed to a single currency, a business survey reports, our Economics Correspondent writes. The survey by NCM Credit Insurance and the Institute of Export shows that 48 per cent of companies questioned were opposed to a single currency operating in the European Union with only 43 per cent in favour.

But the balance has shifted in the past year in favour of the single currency project.

Quality of drinking water too low, say EU officials

By Jane Martinson and George Parker in London

Drinking water in the UK came under attack from the European Commission yesterday as the British government itself took a privatised water company to court over contaminated supplies.

In a highly embarrassing move for the government the European Commission has referred its evidence on levels of pesticides in UK tap water to the European Court of Justice.

At the same time as "rigorously defending" itself, the UK's Department of Environment announced it was to take South West Water, one of the UK's nine privatised water companies, to court next month for allegedly supplying contaminated water. The court proceedings stem from an incident last year when 575 people experienced stomach upsets and abdominal pain caused by an outbreak of the illness cryptosporidiosis.

The Commission said it had found evidence that the UK had failed to comply with the 1980 Drinking Water Directive by allowing the level of pesticides in drinking water to exceed 0.1 microgrammes per litre. Certain areas, including London, were regarded as the worst offenders. Fines can be imposed on the government if it is found guilty of non-compliance after a legal case which could last three years.

The Commission's action was welcomed by Friends of the Earth, the environmental campaign group, which took its own action against the government. It claimed that undertakings given at water privatisation in 1989 allowed the water companies to flout the rules on pesticide limits.

Friends of the Earth said that, after losing a Court of Appeal hearing against the government at the end of 1994, the group was refused permission to go to the House of Lords as the highest court of appeal.

The Department of the Environment said the Commission's action had "nothing to do with water quality", but concerned legal undertakings given to companies at privatisation which set legally enforceable pollution limits.

Executives 'were underpaid'

Yorkshire Water, widely criticised over its handling of last year's drought, declared yesterday that its executives were underpaid, David Wighton writes at Westminster. MPs reacted with astonishment to a statement in the company's annual report that its "previous remuneration terms were not competitive".

Mr Frank Dobson, shadow environment secretary, said: "When I first heard it, I thought it was a sick joke. It turns out to be the even sicker truth." Ms Helen Jackson, MP, chair of the all-party parliamentary water group, said: "I cannot believe that they haven't learned anything. In all the reviews of what went wrong last year, nobody said one of the problems was that the directors were not paid enough."

The annual report, now being posted to shareholders, discloses that the former chairman and chief executive, who both stepped down in May, received total pay of £170,000 ($260,000) and £156,000 last year. The company said it had reviewed remuneration in line with the recommendation in last year's Greenbury report on executive pay.

The remuneration committee of non-executive directors concluded top salaries were too low following the company's recent experience of recruiting two executive directors from outside.

Mr Kevin Bond, former chief executive of the National Rivers Authority, received a large rise when he joined Yorkshire last month as head of the Water business on a salary of about £130,000.

Yorkshire also managed to recruit a heavyweight new non-executive chairman in Mr Brandon Gough, former senior partner of accountants Coopers & Lybrand, who agreed to take on the two-day a week job for a salary of £120,000. The company said it believed the new salaries were still uncompetitive.

UK ECONOMICS DIGEST

World Service changes opposed

Organisers of the campaign to save the BBC's World Service have written to every governor of the BBC warning that, if current changes go ahead, the World Service would first "alienate its audience, then lose them". The warning came in response to the reconstruction of BBC management under which World Service programmes would in future be made by other divisions of the BBC under contract.

The campaign argues that the plans would end the cross-fertilisation that occurs because World Service staff who broadcast in English and those who produce the 43 other language services are all in the same building.

The aspirations of BBC journalism can be taught to the newcomers just as we rely on them to help us understand their cultures," the letter argues. The Campaign insists that there is no need for the World Service to be subsumed into a restructuring intended above all to bring benefit to British television audiences, particularly as the World Service is cheaper in every area than any other part of the BBC.

Raymond Snoddy, London

Focus on communication

The National Heritage Department should be renamed the Department of Communications and Heritage and its role strengthened and extended to include communications and the information superhighway, MPs recommended yesterday. A report by the national heritage committee of the House of Commons argues that allocating responsibility for developing the superhighway to one of seven junior ministers in the Department of Trade and Industry gave it nothing like sufficient weight. Responsibility for horse and greyhound racing should also be transferred from the Home Office to the renamed department, as should responsibility for the BBC World Service which at the moment is held by the Foreign Office, the MPs said.

George Parker, Westminster

Subsidy for N Ireland utility

The government yesterday announced details of a £16m ($24.48m) subsidy for Northern Ireland Electricity, the privatised utility. It represents the first tranche of a £60m programme over 3 years, to offset the rise in electricity prices in Northern Ireland, which are around 23 per cent higher than the UK average.

The move to provide support to a privatised utility was cautiously welcomed by Offer, the Northern Ireland electricity regulator, and follows a critical report last December from the Commons Northern Ireland committee. The price subsidy announced yesterday will be paid to NIE to reduce tariffs by around 3 per cent, bringing the current electricity price rise down to around 2.3 per cent for 1996-97.

John Murray Brown, Dublin

Trico to expand Welsh plant

Trico, a US-owned motor components company, is to create 150 jobs in a £5m ($7.65m) expansion at Pontypool, south-east Wales. The company, which has been at Pontypool since 1992, has an existing workforce there of 435 people. It is increasing production after reaching a distribution agreement for its wiper blades with NGK of Japan. The expansion, which has grant support from the Welsh Office, will also enable Trico to diversify its range of products.

Roland Adburgham, Cardiff

Jersey to protect partners' assets

The partners of Britain's leading accountancy firms will now be able to protect their personal assets from big law suits by registering their partnership in Jersey. The island's parliament yesterday voted by 25-19 to allow limited liability partnerships to be established on the island.

Under the new law firms are still liable to be sued, as are negligent partners, but the assets of the rest of the partners are safe. Two substantial UK firms, Ernst & Young and Price Waterhouse, helped the Jersey authorities draft the law and both are enthusiastic about taking up registration.

There is strong pressure on the UK government to allow limited liability partnerships in the UK. The Department of Trade and Industry is looking at a wide range of options on professional liability. The Jersey legislation follows similar laws passed at state level in the US.

Philip Jeune and Jim Kelly

Machine tools deficit

Britain experienced a big trade deficit in metalworking machine tools in the first quarter of 1996, after a surplus in the equivalent period a year earlier, says the Machine Tool Technologies Association, the main trade body for the industry. The change to a deficit in the first three months of this year of £32.9m ($50.33) from a surplus of £5.6m in the equivalent period a year earlier was caused mainly by a large rise in imports. For the whole of last year, machine tools recorded a deficit of £121.6m compared with a surplus of £17m in 1994. Machine tools have slipped into deficit partly as a result of large investment programmes in UK industry.

Peter Marsh, London

One-day strike at offshore yard

Discussions are under way to resolve a dispute which on Monday triggered an unofficial one-day walkout by 900 workers from Amec Process and Energy's offshore fabrication yard at Wallsend in north-east England.

The unofficial strike was the first industrial action at the site, which employs 2,500 workers, since radical changes in pay and conditions were agreed nearly a year ago. Over the past year the facility has won orders worth around £200m ($306m).

Chris Tighe, Newcastle upon Tyne

'Cheaper' commuter fleet renewal proposed while pressure mounts to reroute freight line

Train manufacturer offers modernisation deal

By Charles Batchelor, Transport Correspondent

Up to 2,000 ageing commuter trains could be modernised for a quarter of the cost of building new ones and given a further 15 years of life under proposals launched yesterday by a rolling stock manufacturer.

Mr Stig Svärd, chief executive officer of ABB-Daimler Benz Transportation (Adtranz), said the proposals meant the newly privatised train operating companies would be able to afford to upgrade their fleets at an acceptable cost.

Rolling stock manufacturers are placing increasing hopes in the prospect of refurbishing old trains because they do not expect a significant volume of orders for new ones. It is nearly three years since a new train order was placed in the UK.

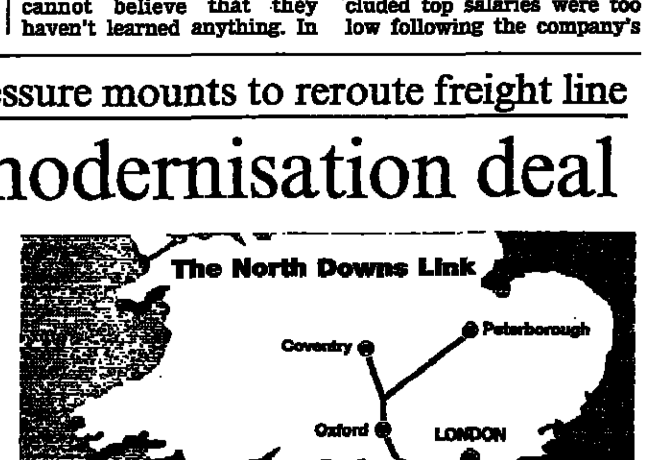
Mr Svärd said modernisation would cost about £250,000 ($382,500) per carriage – for the type known as Mark 1 – compared with £1m for a new one, although rail industry managers said this costing was optimistic.

Adtranz would take 35-year-old rolling stock and replace the steel bodies with aluminium, on top of the original wheels and underframe. The new trains would have crumple zones to absorb impacts and anti-climb devices to prevent carriages riding up and slicing through each other in a crash. "Slam" doors would be replaced by electric doors and interiors would be redesigned with safe, fire-proof seats.

A decision to go ahead with Adtranz's proposed modernisation would depend on the train operators and the rolling stock leasing companies jointly agreeing to finance the upgrading. The leasing companies would extend the life of their assets and could charge the train operators slightly more for leasing the trains.

But the increase in charges would only be "marginal," Mr Svärd said. In part this would be because the rolling stock companies are rewarded for making safety improvements by the government.

Most of the Mark 1 trains run south of the river Thames with 540 operated by Network SouthCentral, recently acquired by CGEA, a French transport group; 440 by South West Trains, now part of the Stagecoach bus group; and 350 by South East Trains, which has yet to be sold.



A group of municipal authorities in London is stepping up its campaign to reroute Channel tunnel freight trains away from the centre of the capital on to an under-used line running to the south-west of London, Charles Batchelor writes.

The activities of the London Channel Tunnel Group have been given additional urgency by proposals for a dedicated freight route to be built partly in tunnels under London and by growing congestion on existing routes through the capital. A Department of Transport assessment concluded that improving the line was not a viable option. But this study did not take account of the problem of capacity constraints and put too high a price tag on the work which needed doing, the tunnel group said. "The relative success of the Channel tunnel rail freight activity is already suggesting that capacity constraints will soon become a problem," the group added.

OBITUARY

It is with deep regret that we have to announce the death on June 29th 1996, as a result of a tragic accident, of the long-serving Chairman of Veba Oil Operations B.V.,

Mr. Salem A. Farkash

Mr. Farkash was 60 years old. He had been Chairman of Veba Oil Operations since 1980. With enormous commitment he played a decisive role in the development of Veba Oil Operations into one of the leading oil companies in Libya and led the company with great skill through a difficult period.

His distinguishing characteristics were not only great experience, an understanding of people, a marked sense of responsibility and dependability, but also his untiring work for the company and its employees.

It is with profound gratitude to Mr. Farkash that we take our leave of him. We shall honour his memory.

Veba Oel AG
The Board of Management, Works Councils and Employees

Caspar Henderson on the potential offered to developing countries

The solar revival

Solar spotlight

Rumours of the stillbirth of the solar industry have been much exaggerated. Nevertheless, even its most optimistic supporters admit that it has failed to generate much success in two areas where its potential ought to be greatest.

In large plants supplying power to national grids, and stand-alone schemes for the more than 2bn people who do not have access to a grid, electricity produced by photovoltaic (PV) cell technology has until recently not been considered feasible without subsidy, or at least the removal of subsidy from rival generation technologies.

But this perception could be about to change. Where communities are more than a few miles from a national grid, PV systems can already provide the most cost-effective solution for basic energy needs. "The barriers are no longer technical," says Jenny Gregory of the UK consultancy IT Power. "The problem is attracting capital."

In a book* to be published this autumn, Gregory writes that successful models for standalone solar power projects already exist in the Dominican Republic, Honduras, Sri Lanka, India and elsewhere. In virtually every case, though, international seed funding was essential.

But, she says, more local use of hire purchase, revolving loan schemes and other financial innovations could turn the current trickle of projects into a flood.

The experience of a remote small village in Sudan's North Kordofan province shows what can happen. After the World Health Organisation installed a PV system to keep vaccines cool at the village clinic, elders placed a small tax on sugar production. Within a few months, they had raised enough to buy a solar-powered cooling system for the mosque.

As for big, commercially competitive solar power projects, two recent agreements suggest such schemes are in sight for two countries, India and China, that are among the hungriest in the world for energy. In India, the Rajasthan State Electricity Board has signed a 25-year power purchase agreement with Amoco/Enron Solar for power from an array to be pumped directly into the grid. Construction is scheduled to begin soon on a plant in the Thar Desert for supply of 50MW in the first instance and possibly 150MW in subsequent years.

In China, Amoco/Enron has signed an agreement with the State Science and Technology Commission for a joint feasibility study for a solar cell manufacturing centre and 150MW generating facility.

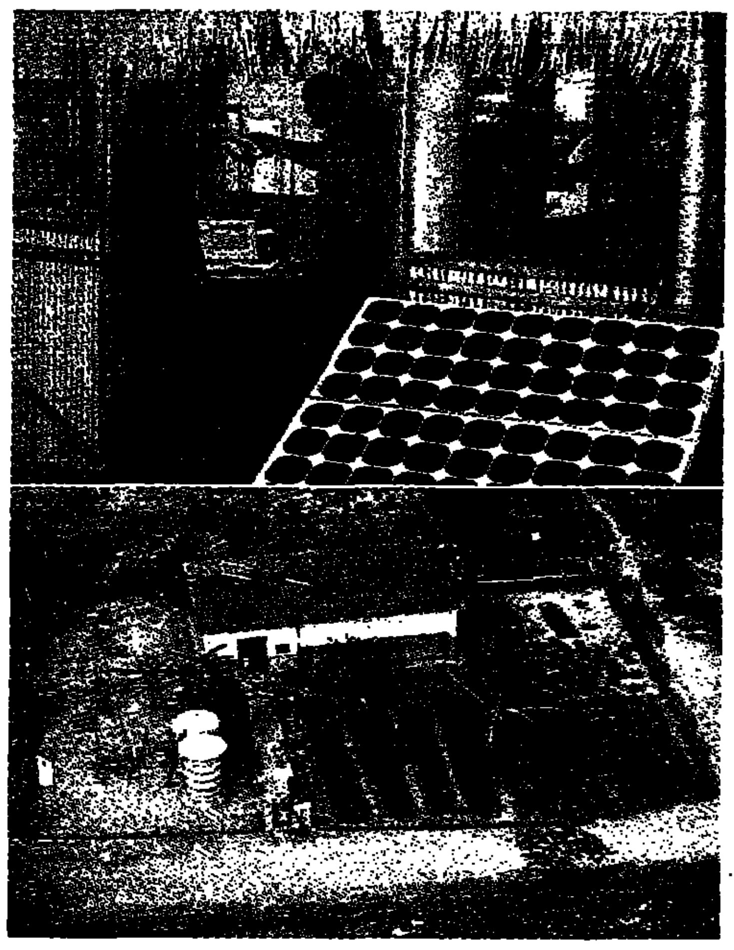
"We think there is a great big market out there and we are going for it," says Bob Kelly, executive vice-president of Enron and co-chairman of Amoco/Enron Solar, a joint venture between Amoco, the US oil company, and Enron, North America's largest natural gas company.

While the Rajasthan project will meet only a tiny fraction of India's energy demand, it could set an important precedent for solar power to a national grid at truly competitive prices. With India's economy apparently in the early stages of "take-off" (GDP grew by about 6 per cent last year, energy use by 7 per cent) and a population projected to overtake China's, choices made now will reverberate far into the future.

As in other rapidly growing countries, energy use per dollar of GDP in India is high compared with the US and western Europe. So, until there are greater incentives for energy efficiency, enormous amounts of power will be needed to fuel growth.

A recent study by Kleinwort Benson said that maximising domestic coal stock use and minimising expenditure on foreign oil and gas would make the best economic sense for India. But the study does not account for the cost to the environment and Indian society of fossil fuels used on the predicted scale.

Asia's emissions of sulphur dioxide will easily surpass those of Europe and North America combined by 2000. Its emissions of carbon dioxide will overtake the west no later than 2015. Coal is the biggest source of both. Photovoltaic technology can deliver power virtually without pollution and without heavily burdening the balance of payments of a country that has to import fossil fuels.



Roger Taylor

A model of a solar-powered bamboo home (top) and a working PV system in Brazil

Unlike large-scale hydro-power projects, it is seldom likely to cause severe disruption. Damage to the ecology of desert regions that suit solar arrays best is unlikely to be significant, and few people live there. Bhairon Singh Skekhawat, Rajasthan's chief minister, estimates the state could easily generate 10,000MW of solar power. Finance for the Rajasthan plant, which could cost about $100m (£64m), has yet to be finalised. A proportion of the equity capital will come from Amoco/Enron itself. Kelly says the company is still negotiating with the Global Environmental Facility, a fund set up after the Earth Summit in Rio in 1992 and administered by the World Bank to encourage initiatives mitigating greenhouse gas emissions.

The Indian Renewable Energy Development Agency, or IREDA, could be among those providing some backing. The existence of the agency – hailed internationally for the success of the revolving fund it operates for renewable energy projects – is indicative of an outlook that has put India on the road to becoming the first country outside the OECD with large-scale solar power at commercial rates.

Renewable energy technologies are set to boom in India, according to Vijay Bakthvatsalam, the agency's director. By 2015, he estimates, the country could have 16,000MW on line – or 8 per cent of total generating capacity.

But the agency remains cautious about the role of solar power in the total renewable energy mix. Although it agrees that solar has by far the greatest potential in the long run, it envisages only 10MW-15MW coming on line in the country each year until 2015. The next few months in Rajasthan could determine whether a very different scenario emerges.

** Financing Mechanisms for Renewable Energy Systems: A Guide for Development Workers. Jenny Gregory. To be published by IT Publications (Tel +44 (0)171 436 9761) this autumn.*

Previous articles in this series appeared on June 5 and 12.

Viewpoint · By Ronald McLean and Jonathan Shopley

Green light shows for corporate gains

Dow Chemical aims to show that investment can bring high returns

When Dow Chemical announced recently that it planned to invest $1bn (£645m) in new environmental equipment and programmes during the next 10 years, the real news was not the size of the proposed expenditure but the company's prediction that it would make a return of between 30 and 40 per cent on its investment.

For several years observers in the business community have been saying that companies can enjoy tangible gains from environmental initiatives. But solid evidence of these benefits – the kind of proof that wins the confidence of corporate decision-makers – has been slow in coming.

A recent survey by Arthur D. Little, the international consultancy, found that companies often face a barrier between their business activities and environmental functions, which stops them realising any associated benefits. Of 185 North American companies surveyed in a range of industries, only 4 per cent reported that they treated environmental issues as a fully-fledged part of business management.

More than 70 per cent said the main obstacles to progress on such issues were the separate professional culture of environmental management and the inability of business managers to see environmental management as a business issue.

These companies are contending with a corporate "split vision". The business vision is active and positive, focusing on growth and profitability, but the environmental one is passive and negative, concerned with satisfying regulators and appeasing environmentally-conscious customers and pressure groups. Because of this split vision, companies often perceive environmental actions as barriers to business growth, not opportunities for success. The good news, as companies such as Dow are showing, is that the split vision is not inevitable. Those that bring together their environmental and business visions may gain substantial bottom-line results.

Xerox, for example, launched a programme in 1991 to lower costs across its product life cycle. Partly in response to proposed product take-back legislation in Germany and other parts of Europe, it explored relevant activities, including product recovery, disassembly, and remanufacturing or recycling. It discovered that its copiers had considerable residual value – in numerous components that last far longer than the product as a whole. As long as the company simply allowed old copiers to be disposed of, that value was lost.

After Xerox launched its take-back initiative to recapture and remanufacture parts for use in new products, it achieved almost immediate results. In its first year, the initiative increased the company's net earnings by $50m as a result of lower manufacturing and raw material costs and reduced inventory charges. Recent calculations put the initiative's total contribution at about $200m for a three-year period.

For Baxter International, packaging is one area where a combined focus on business and environmental goals is winning benefits. After a task force was set up by the company's cardiovascular division to reduce the per-unit weight of packaging by 15 per cent, it looked for options that cut packaging and cost without raising prices or inconveniencing customers. As a result, one material was replaced by another that eliminated the need for one layer of packaging and was more easily recyclable, saving $2m annually.

Bristol-Myers Squibb is getting sustained results conducting life-cycle reviews of all existing products and expects to complete the process, which began in 1992, by 1997. In each review, an employee team representing a range of business areas and skills use product life-cycle analysis tools to identify environmental advantages and cost savings. To date, with more than half the reviews completed, Bristol-Myers Squibb has identified average savings of $300,000 on each review.

Despite success stories such as those, many corporations continue to question whether such performance gains can be repeated or sustained. Examples abound of environmental initiatives that began with a great fanfare and then fizzled out.

One critical factor is building management support by proving the environmental initiative will work. Despite conventional wisdom, many successful programmes did not start with senior management support driving them. Instead, they demonstrated success in one business area, then used those results to interest senior management and spread the programme through the company.

It is equally important to recognise and address how much environmental managers have worked in isolation from business concerns. Even the best managers – trained in technical, engineering, and scientific disciplines and accustomed to keeping the company in compliance with complex regulatory codes – may not be skilled in business basics.

To work effectively with business staff on environmental initiatives that offer paybacks, most of today's environmental managers need to acquire skills for framing environmental issues in business terms and communicating their bottom-line value. They must state objectives clearly and provide tangible measures of results. Baxter's packaging initiative succeeded in part because the goal was familiar and compelling to business managers: to meet or exceed customer expectations while reducing costs.

Through approaches like these, leading companies are reshaping the relationship between business goals and environmental activities. They recognise that only limited results can be won by demanding that business staff should meet environmental obligations; instead, they let the recognition of business value drive their environmental efforts.

Ronald A.N. McLean and Jonathan B. Shopley are based in Brussels at Arthur D. Little's European Environmental Management practice.

Television/Christopher Dunkley

Zinc stoats – and the Prix Italia

A thousand business cards are exchanged, a lake of Naples' lemon liqueur is consumed on top of a mountain of *frittura di mare*, promises of co-production money are made with all the passion of a teenage summer love affair – and the 48th Prix Italia broadcasting festival is over. Hundreds of delegates, jurors and observers return to scores of countries, and once again it has been proved that, whatever we may think from watching the screens in our own homes, the world is awash with high quality television.

Six television prizes have been awarded, two each for drama, arts and documentary, each worth L15m (about £6,300) and in every case there have been arguments, perfectly reasonable ones, in favour of other contenders. Fifteen or 20 years ago festivals of this sort attracted an irritating proportion of "duty" entries which looked as though they had been produced by some national tourist office and clearly stood no chance of a prize. Now such entries are rare. Out of 35 documentary entries this year at least ten could have been in the running for prizes.

In fact the main award, the Prix Italia itself, went to *Return To The Dying Rooms*, a horrifying account of cruelty to children – particularly girls – in Chinese orphanages made by the UK's Channel 4. Shot on a hidden camera, it shows appalling scenes of children and even babies lashed all day to commodes with the sort of tics you see in caged animals. China's rapid journey towards the status of top world power was one of the unplanned themes of this year's festival, and it is hard to see how the Chinese will be able to ignore the evidence of this programme if they want to be taken seriously among other major nations.

The "special" prize for documentaries (not second prize, perish the thought, yet clearly not first prize) was awarded to *Troublesome Creek: A Midwestern*, an interestingly personal yet indulgently long programme about American farming which was described here last week.

The Prix Italia for television drama (32 entries) was won by HRT of Croatia with *Isprani*, translated as "The Washed Out", a story about the difficulties, emotional and practical – where do you make love when your family shares a two-room flat with a refugee? – of young people attempting to begin their lives in a society which has been literally and metaphorically smashed to pieces. In this category the special prize was given to *Charlot & Charlotte*, a production which, though well made and funny, tries a little too hard to be the Danish *Thelma And Louise*, and suffers from the longueurs familiar from so many television serials.

Smallest and weakest of the three categories was music and arts, which attracted 24 entries. Here the Prix Italia went to Germany's *Tod Für Fünf Stimmen* or "Death For Five Voices", a documentary about a 16th-century Italian composer named Gesualdo whose music is said to have been so far ahead of its time that nothing else like it was heard until the coming of Wagner. Whether or not you like his work (and you might think that 16th-century Italian music had been doing pretty well without Signor Gesualdo), some of us found the style of the programme with its jokey pursuit of ghosts somewhat trying. The special prize was awarded to the BBC's *Enter Achilles*, a television version of the latest stage production by the excitingly different all-male modern dance company DV8.

So British television maintained its long standing record as the most successful competitor at this festival, winner over the years of more than twice as many top prizes as the next most successful nation, France. Outsiders, scornful of the readiness of television people to award prizes to one another, may question the significance of such a record, and their doubts might be strengthened by the scepticism of some insiders. Back in the 1960s Gus MacDonald, now a big wheel in Scottish Television but then a simple left-wing programme maker, dismissed the entire panoply of Silver Swallows, Golden Roses and Bronze Bears as "zinc stoats".

He was pretty well right. An awful lot of television awards came from events where juries included starlets, football players and local politicians. The value of such prizes was highly questionable. There was just one festival where integrity seemed virtually impregnable. At the Prix Italia, oldest of the lot, launched as a radio event in 1948, you were judged by your peers: the juries consisted entirely of programme makers. Documentaries were judged by documentary makers, arts programmes by producers of arts programmes. Most important of all was the simple rule: in any category an organisation could have either a programme or a juror but never both.

As a result, the bad smell which hung around so many festivals where jurors helped award prizes to programmes from their own companies, was absent from the Prix Italia. But the Italia organisers do not seem to have realised how centrally important these arrangements were in earning unique prestige for their event. A couple of years ago, arguing that there was now so much co-production that it was virtually impossible to create a wholly disinterested jury, they scrapped the old rules.

Consequently this year we had the unedifying sight of the Prix Italia for television music and arts programmes being awarded to ZDF by a jury whose chairman came from ZDF, and the special prize in television drama being awarded to Danmarks Radio by a jury whose chairman came from Danmarks Radio. These may be the most honourable individuals in the history of the world, and the programmes in question the most deserving. The point is that under the old rules nobody ever had to even wonder about individual integrity because the system itself had integrity built in.

Of course what matters most is to have the evidence put before the world that, whatever the popularity of soap operas and programmes of home video clips showing bridesmaids tripping over their dresses, there is still a large quantity of worthwhile television being made in countries as diverse as Japan and Poland, Canada and Hungary, Brazil and Switzerland. Human nature being what it is, that is unlikely to occur without the inducement of prizes. Since there are now said to be 94 festivals of television and video around the world there is no difficulty in finding a prize or two. Finding prestige and integrity is another matter.

Theatre/Alastair Macaulay

The Aspern Papers

There is one astounding incident in the current revival of *The Aspern Papers* – the 1959 stage adaptation of the Henry James story by Michael Redgrave – which demonstrates to perfection how a live performance can illumine a classic work of fiction. It occurs in the middle of the play, and it is – of all things – a song. The aged Juliana Bordereau has commanded her plain and no longer young niece, Miss Tina, to sing to their lodger, Henry Jarvis, an old song, "The Green Hussar", which Miss Tina used to perform sweetly in her youth and whose words had been written by an unnamed poet of Miss Bordereau's youthful acquaintance.

The song itself, sung unaccompanied, is deeply charming, with the flowing lines and little flourishes that mark such Irish folk songs as "She moved through the fair". And as Miss Tina sings it, you hear in her not only her current tentativeness but also a lightness and youthfulness of voice that surprise you – though these things sound now carefully preserved, as if in tissue. You even hear the governessed correctness with which she must have learnt the song. As the song continues, its stillness and beauty exert a potent spell as they must once have done back in the days when Miss Bordereau was still a great beauty and had a great poet's love. Sung again now, it also hints now at the feeling that Miss Tina hopes may be dawning between herself and Jarvis.

Hannah Gordon, who plays Miss Tina in this revival, has surely done nothing better. Much of her accomplished performance is along the lines of Olivia de Havilland's celebrated film performance of another frustrated Jamesian spinster, Catherine Sloper, heroine of *The Heiress*. The romantic hopes and doubts of the character are visible in her eyes, and she makes Miss Tina's charm and inhibition apparent in equal measure. But the song is something else. Revealing things in Miss Tina and in Hannah Gordon we had not known, it becomes the beating heart of the play. At the end, as Miss Tina opens the trunk containing the Aspern papers, she comes across a green hussar's uniform; and the tiny pang she experiences is conveyed by Gordon with eloquent economy.

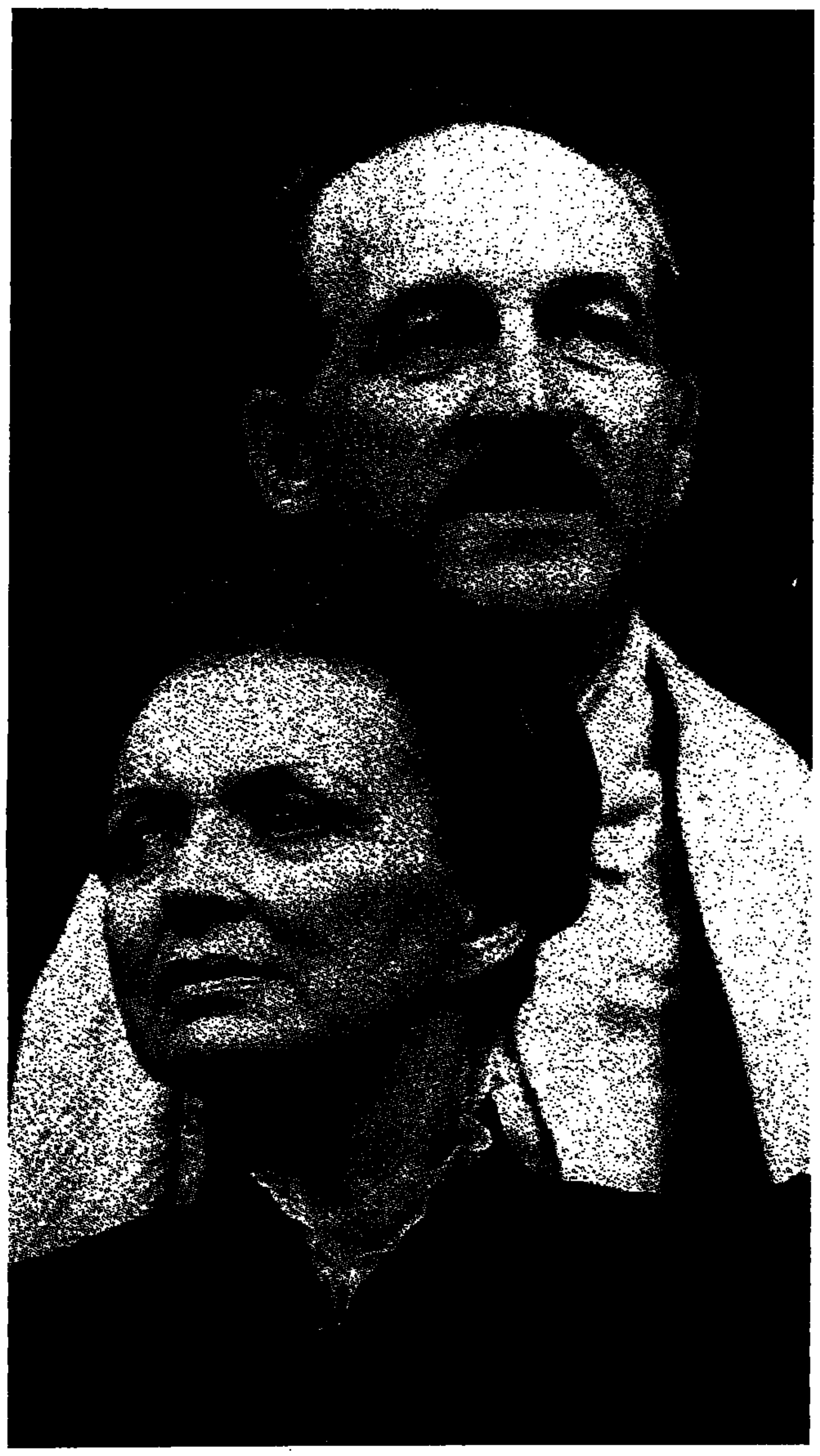
There is little other reason to see this staging. Instead of the original features and brilliant narration of Henry James's story, Redgrave's adaptation – certainly as directed by Anriol Smith – keeps reminding you of several other stories. In particular, *The Aspern Papers* seems here heavily derivative (as it is not when you read it) of *The Queen of Spades*: the old lady with a secret, the obsessive younger man, and the niece caught between them.

The old Miss Bordereau, played with stale flamboyance by Moira Lister, ends the second act by advancing on Jarvis with her stick, calling him "Publishing scoundrel!", and then collapsing in a heap. (Curtain.) Not long before, she has had a contrived little mad scene of revealing memories and fantasies – which Lister rattles through with a foolish briskness that destroys its impact.

Daniel J. Travanti judges the quasi-English accent of the American critic nicely, but the effort seems to cost him all vocal comfort. Like a fading soprano, he spends the play switching between nasal and chest registers to disconcerting effect. Vincent Boluda makes an impressive West End debut as the sly manservant Pasquale, and the audience enjoys Yvonne Bonnamy in her impersonation of Assunta, the suspicious Italian maid.

Sean Cavanagh's set does a good deal to make us believe we are in a fading old Venetian house. Some poor stagehand is kept busy on an old wind machine during a storm – when he is not making the shutters bang to and fro. Meanwhile we have a continuous view of the garden, most of whose many leaves stay mysteriously unruffled by the gale.

Wyndhams Theatre, WC2.



Alastair Muir

Romantic hopes and doubts: Hannah Gordon and Daniel J. Travanti

Theatre/Ian Shuttleworth

A restless Richard

Steven Pimlott's production of *Richard III*, greeted with much head-scratching last autumn at Stratford, remains a bewildering hotch-potch. It boasts both narrative and linguistic clarity (necessary but rare for Shakespearean histories), and a number of central performances which, whilst majestic, convey curiously little sense of majesty. And at its centre is David Troughton's interpretation of Richard Crookback of Gloucester as the consummate performer: the scene in which Richard is pressed to accept the crown is played as a blatant piece of stage management.

This Richard never switches off: he is always assuming a role, always delivering lines rather than speaking words. Dressed in flaming red, he aims for the impish appeal of the Vice in a medieval morality play. The net effect is that tragedy is something which happens, if at all, around Richard rather than to him.

Tobias Hoheisel's set – composed largely of a livid green, blasted plain with a single stunted tree (more Godot than Gloucester) and an upstage closet-cum-truck which serves as a variety of courts and council chambers – also contains an area demarcated as a kind of limbo. Here the ghosts of those unfortunates despatched by Gloucester periodically congregate; Queen Anne's death is signified by Rachel Sanders walking with slow resignation from the court into this shaded quarter, a move later repeated by Richard himself after the battle of Bosworth Field. The battle is not presented at all: Richard crosses an empty stage to sit in darkness, slowly and ironically applauding Henry of Richmond's closing victory speech.

There are few earlier hints that even this capering monster may have a conscience, notably in conflicts with his mother (whom, unfortunately, Diana Coupland renders as more petulant than wrathful), though to all intents and purposes Richard's despair comes out of nowhere. The supernatural dream on the eve of Bosworth is staged with Richard and Henry sitting side by side at a council table as the succession of shades file in to damn and bless them respectively, but the scene remains mechanistic when it should be potent; the audience has been shown hardly any indication of a "real" Richard, and so does not engage with his downfall.

Michael Siberry makes a noble, lyrical Clarence, and Paul Bentall's Hastings is one of the few loci of humanity; moreover, Richard's outburst against Hastings, sending him scurrying under the table, is virtually the only occasion on which we see his malevolence unbridled. John Nettles growls and looms obligingly as Buckingham, but to my mind Nettles on stage is always visible *doing* acting. Rachel Sanders is handicapped as the Lady Anne in that she is never able to make the dramatic running.

Imposing interpretative concepts upon plays too often means that a particular aspect works magnificently at the expense of the whole tapestry. Pimlott's *Richard III* is a case in point: the magnitude and relentlessness of Troughton's performance leaves little room for us to glimpse the spirit either of Richard or anyone else.

In repertory at the Barbican Theatre, London EC2 (0171-638 8891).

Music

Lufthansa Baroque

Niche marketing has ensured the Lufthansa festival a corner of its own in the crowded June diary of London music. It always keeps to its Baroque theme, and has decided to restrict its activities to its main venue, St. James's Church in Piccadilly.

This year there are a dozen events, supplemented by free lunchtime recitals by young artists. As the festival has progressed, the dominance of the early music movement by British and Dutch groups has given way to a broader range of activity within Europe and that is reflected in this year's programme, which includes a return visit by Musica Antiqua Köln and appearances by Musica ad Rhenum and the Italian Accademia Bizantina.

The home team is led by the St. James's Baroque Players, the festival's resident group, whose prime performance this year was Handel's oratorio, or "bawdy opera", *Semele*. No matter that we had recently seen it staged at Covent Garden. Ivor Bolton's concert performance had a quite different feel about it, mainly because he tailors his swift speeds and light-fingered style to suit the church's relatively intimate acoustic.

Given the uniformity of style that he imposes on his excellent musicians, Bolton had chosen an unexpectedly mixed cast of singers. At the "authentic" end, there were Ruth Holton as a light, flutish Iris and Nancy Argenta, a pure-voiced though stronger soprano as Semele. In the opposite corner were Della Jones's truly operatic Juno, wickedly overplaying her chest register, and Alan Ewing's sonorous Cadmus. Paul Agnew sang "Where'er you walk" with good-mannered musicianship and occasionally shallow tone; Catherine Wyn-Rogers was an effective Ino. This seems to be *Semele*'s year and it will be interesting to compare Bolton's performance with William Christie and Les Arts Florissants at the Proms in August.

The night before, the festival had kept up its policy of inviting interesting European Baroque groups by bringing over Le Concert Spirituel directed by Hervé Niquet from Paris. The programme contrasted motets by Lully with those of his contemporary and arch rival at the court of Louis XIV, Paolo Lorenzani. At the time Lorenzani was the clear loser, but his music has a clear-sighted purpose of its own and Niquet's excitable performances meant that there was never a dull moment.

Richard Fairman

Further events in the Lufthansa Festival tonight and tomorrow.

INTERNATIONAL ARTS GUIDE

■ AMSTERDAM

CONCERT
Concertgebouw
Tel: 31-20-5730573
● Radio Kamerorkest: with conductor Ton Koopman and soprano Luba Orgonasova perform works by Mozart; 8.15pm; Jul 5

■ BARCELONA

THEATRE
Mercat de les Flors
Tel: 34-3-3017775
● Richard III: by Shakespeare (in French). Directed by Matthias Langhoff and performed by La Fonderie. The cast includes Hugues Boucher, Stéphane Comby, Maxime Lefrançois and Jean-Michel Portal. Part of the Festival d'estiu de Barcelona GREC 96; 10pm; Jul 3, 4, 5, 6

■ BERLIN

EXHIBITION
Das Bauhaus-Archiv, Museum für Gestaltung Tel: 49-30-25400278
● Laszlo Moholy-Nagy zum 100. Geburtstag: retrospective exhibition devoted to the work of the Hungarian sculptor, painter, designer and photographer Laszlo Moholy-Nagy (1895-1946), on the occasion of the centenary of the artist's birth; to Dec 1996

■ BIRMINGHAM

FESTIVAL
Birmingham International Jazz Festival Tel: 44-121-454-7020
● Birmingham International Jazz Festival: with 200 performances at 50 venues and more than 650 musicians the 12th Birmingham International Jazz Festival features 70 bands providing 400 hours of music; from Jul 5 to Jul 14

■ BONN

EXHIBITION
Kunst- und Austellungshalle der Bundesrepublik Deutschland
Tel: 49-228-9171200
● The Great Collections IV: Moderna Museet, Stockholm: this exhibition features approximately 200 works of modern art from the collection of the Moderna Museet in Stockholm, beginning with examples of early modern art up to contemporary art; from Jul 5 to Jan 12

■ CHICAGO

EXHIBITION
Art Institute of Chicago
Tel: 1-312-4433600
● Splendors of Imperial China: Treasures from the National Palace Museum, Taipei: almost 400 works spanning four millennia have been selected for this exhibition from the collection of the National Palace Museum in Taipei; to Aug 25

■ DUBLIN

CONCERT
National Concert Hall - Geoláras Náisiúnta Tel: 353-1-6711888
● A Feast for the Fourth!: concert celebrating Independence Day, featuring ragtime pianist Colm 'Stride' O'Brien, boogie and blues pianist Stan Greig and harlem stride pianist Peter O'Brien; 8pm; Jul 4

■ FLORENCE

OPERA
Teatro Comunale
Tel: 39-55-211158
● Aida: by Verdi. Conducted by Elio Boncompagni and performed by the Coro e Orchestra del Maggio Musicale Fiorentino. Soloists include Dolora Zajick and Nina Rautio; 8.30pm; Jul 3, 4, 5

■ HANOVER

EXHIBITION
Sprengel Museum
Tel: 49-511-1683875
● Zeitströmungen: exhibition of the collection of modern art of the Niedersächsische Sparkassenstiftung. The collection includes works by German artists such as Georg Baselitz, Sigmar Polke, Gerhard Richter and Rebecca; to Jul 7

■ HUMLEBAEK

EXHIBITION
Louisiana Museum of Modern Art
Tel: 45-42 19 07 19
● NowHere: a large-scale presentation of international contemporary art. The exhibition is organized in collaboration with four guest curators; to Sep 8

■ LONDON

CONCERT
St. John's, Smith Square
Tel: 44-171-2221061
● Orchestra and Choir of St. John's, Smith Square: with conductor John Lubbock and pianist You-Chiung Lin perform works by Kern, Barber and Gershwin; 7.30pm; Jul 4
Wigmore Hall Tel: 44-171-9352141
● François-René Duchable: the pianist performs works by Beethoven, Liszt, Ravel and Mussorgsky; 7.30pm; Jul 4
EXHIBITION
National Portrait Gallery
Tel: 44-171-3060055
● David Livingstone and the Victorian Encounter with Africa: this exhibition offers an account of the life and times of David Livingstone, from his birth and childhood in the cotton mills of Lanarkshire to his journeys as missionary and explorer across the continent of Africa; to Jul 7

■ LOS ANGELES

CONCERT
Hollywood Bowl
Tel: 1-213-850-2000
● The Hollywood Bowl Orchestra: with conductor John Mauceri and vocalist John Denver perform works by Bernstein, Rodgers, Sousa and Copland; 7.30pm; Jul 3, 4
EXHIBITION
Los Angeles County Museum of Art Tel: 1-213-857-6000
● The White House Collection of American Crafts: exhibition featuring works by 72 craft artists working in the media of glass, wood, clay, fibre and metals; from Jul 4 to Sep 29

■ MILAN

OPERA
Teatro alla Scala di Milano
Tel: 39-2-72003744
● La Fille du Régiment: by Donizetti. Conducted by Donato Renzetti and performed by the Opera alla Scala. Soloists include Mariella Devia, Valeria Esposito and Giuseppe Sabbatini; 8pm; Jul 5

■ NEW YORK

EXHIBITION
Museum of the City of New York
Tel: 1-212-534-1672
● Gaelic Gotham: A History of The Irish in New York: exhibition featuring over 400 original artefacts that are displayed in thematic and chronological sections; to Oct 27
The Metropolitan Museum of Art
Tel: 1-212-879-5500
● Bare Witness: Clothing and Nudity: exhibition examining costume in its dual role as both concealer and revealer of the female body from the 18th to the 20th century; to Aug 18

■ PARIS

OPERA
L'Opéra de Paris Bastille
Tel: 33-1 44 73 13 99
● Lucia di Lammermoor: by Donizetti. Conducted by Bruno Campanella and performed by the Opéra National de Paris. Soloists include Roberto Frontali, Andrea Rost and Stuart Neill; 7.30pm; Jul 4, 7

■ SCHLESWIG

FESTIVAL
Schleswig-Holstein Festival
Tel: 49-40-2482110
● Schleswig-Holstein Musik Festival: main theme in this year's festival, featuring some 100 concerts, is the music of Schoenberg, Berg and Webern. Opening and closing concerts are performed by the NDR-Sinfonieorchester, featuring works by Anton Bruckner; from Jul 6 to Aug 25

■ TEL AVIV

OPERA
The Opera House
Tel: 972-3-6927777
● The Bartered Bride: by Smetana. Conducted by Mark Elder and performed by the Israelian Opera. Soloists include Yevgeni Shapovalov, Marina Levitt and Ludek Vele; 1pm; Jul 5

■ WASHINGTON

EXHIBITION
Arthur M. Sackler Gallery
Tel: 1-202-357-2700
● Traders and Raiders on China's Northern Frontier: exhibition reflecting the flourishing contacts and complex interrelationships between China and its northern neighbours; to Sep 2

WORLD SERVICE

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EUROPEAN CABLE AND SATELLITE BUSINESS TV

(Central European Time)

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NBC/Super Channel:

07.00
FT Business Morning

10.00
European Money Wheel
Nonstop live coverage until 15.00 of European business and the financial markets

17.30
Financial Times Business Tonight

CNBC:

08.30
Squawk Box

10.00
European Money Wheel

18.00
Financial Times Business Tonight

COMMENT & ANALYSIS

Edward Mortimer

Exit the atomic age

Nuclear weapons could be reduced and eventually abolished if the countries that control them bury their differences

Nuclear weapons are yesterday's issue. There are no longer two superpowers poised to destroy each other and the rest of us at the touch of a button. Iraq has been disarmed. North Korea has been bought off. The Non-Proliferation Treaty has been extended indefinitely. Mr Tony Blair, leader of Britain's Labour party, says he would press that button if necessary, but no one any longer imagines that a British prime minister would ever have to take such a decision.

Consensus reigns, right? Wrong. Negotiations on a comprehensive test ban have just broken up without agreement; and next Monday the International Court of Justice in The Hague will deliver a long-awaited advisory opinion on the legality of using nuclear weapons or even threatening to do so.

Its opinion on this matter has been requested not by some ad hoc bunch of crackpots but by the World Health Organisation and the UN General Assembly. Forty-three governments have made written submissions, and 22 made oral statements during public hearings last autumn. More than two-thirds argued for illegality. But four of the five recognised nuclear powers urged the court to make no ruling, arguing in effect that the issue is political, not legal. (The fifth, China, has taken no part in proceedings.)

It will be surprising if the court, generally a cautious body, comes out with a ruling that in effect criminalises the world's most powerful governments. But the issue is a tricky one. Chemical and biological weapons have now been banned outright, and the indiscriminate killing of civilians with any sort of weapons is condemned under the Geneva conventions. Next door to the court in The Hague, an international criminal tribunal established by the UN security council is busily prosecuting people accused of war crimes in former Yugoslavia, while in Arusha, Tanzania, another is dealing with those responsible for the 1994 genocide in Rwanda. Defence counsel for the accused could argue that their crimes pale into insignificance beside the utter devastation of humanity which use of nuclear weapons would cause.

The issue is related to the test ban talks, which broke down because Britain, Russia and China, along with Pakistan, insisted that the ban could come into force only when ratified by all eight known nuclear powers – the five recognised by the treaty plus the three states (India, Israel and Pakistan) which have not signed the treaty and are deemed to be on the "threshold" of nuclear status. India has served notice it will not accept the test ban unless the five declared nuclear powers agree to a timetable for total nuclear disarmament.

On one level, India's stand is unrealistic and exasperating. Tactically, it has succeeded in provoking an argument among the declared nuclear powers: the US and France would accept a compromise allowing the ban to come into force before India ratifies it, while the other three, with Pakistan, are standing firm.

But the issue should not be reduced to mere tactics. The end of the cold war has made possible a serious discussion about the future of nuclear weapons, and in the US that discussion has begun. The Henry L. Stimson Centre*, a Washington think-tank named after the US secretary of war under whom the atomic bomb was first developed, is running a project "to encourage serious consideration of the conditions under which all states might move toward the progressive elimination of all weapons of mass destruction".

The project's steering committee is chaired by Gen Andrew Goodpaster, a former supreme allied commander in Europe. It includes three other senior retired generals and such luminaries of the US defence scene as Robert McNamara (secretary of defence in the 1960s) and Paul Nitze (arms control negotiator for successive administrations from Truman to Reagan).

Its second report, published last year, sets out a four phase strategy for eliminating nuclear weapons. In the first phase, which could be completed by 2003, the US and Russia would bring their arsenals down to roughly 2,000 warheads each (below the level already agreed in the Start II treaty). In the second, all five declared nuclear powers would come down to a few hundred warheads each, while the threshold states would be enticed out of the closet to join in the process of multilateral reductions.

In Phase III all remaining arsenals would be cut to tens of weapons, held under international safeguards; regional and global collective security regimes would be developed; and nuclear powers might agree to become "trustees" of nuclear weapons, forswearing first use but threatening to respond to any nuclear attack against any state.

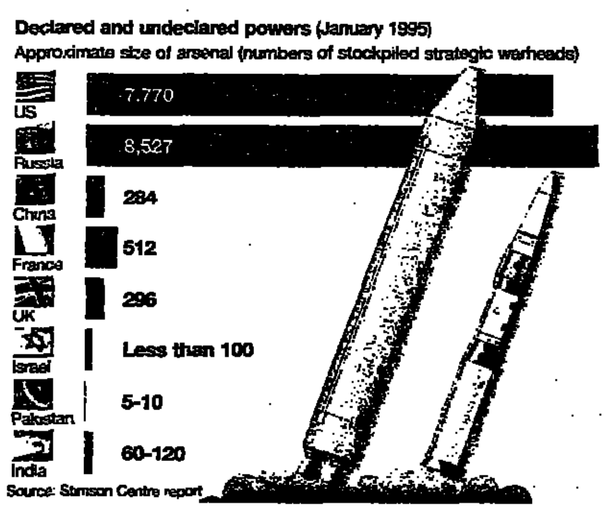
Finally, in Phase IV residual arsenals would be eliminated. Capability to reconstitute them would be internationally monitored, and all materials or knowledge relevant to weapons of mass destruction would be placed under stringent control. The US and other former nuclear powers would keep components of their former arsenals under international safeguards. (The storage sites would have to be numerous and dispersed, and the verification regime strict enough to ensure that no violator of the ban could amass enough nuclear weapons to destroy all the sites without being detected.)

This programme would take several decades to implement. Each phase could only begin when the previous one was clearly seen to have worked. No one imagines that nuclear weapons can be wished away overnight. But that does not mean we must resign ourselves to living with them for ever. The greater danger is that, by refusing even to contemplate a programme for doing away with them, established nuclear powers will appear to be relying on them to perpetuate an unequal international order, in which some states are entitled to greater security than others.

In such a world, no non-proliferation treaty can hold indefinitely, whatever it may say on paper.

**21 Dupont Circle NW, Fifth Floor, Washington DC 20036.*

The nuclear club



LETTERS TO THE EDITOR

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No miracle for the poor in China

From Mr Paul Spray.

Sir, The World Bank's *World Development Report* on economies moving from plan to market ("Rapid liberalisation is starting to pay off", June 28) sits uneasily beside received wisdom on the east Asian miracle. Chinese growth continues to be extremely rapid, but the report suggests that since 1985 it has stopped reducing poverty.

One reason is that the state has halved its role – from 36 per cent of gross domestic product in 1978 to 18 per cent in 1994 – and cut transfers from wealthier to poorer regions. At a local level, health and social services have suffered. The message from the Bank seems to be more plan and less market.

Paul Spray,
policy director,
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Unlikely that the European central bank would be able to intervene

From Mr William L. Jacobson.

Sir, I agree with Manfred Neumann ("The ins and outs of Emu", June 28) that the idea of putting an intervention obligation on the European Central Bank is ill-conceived. But his contention that the absence of an intervention obligation would make a future exchange rate mechanism (ERM) more flexible than the previous one is unfounded.

In practice, the central bank would be no more likely to intervene without limit against a sustained speculative attack on a peripheral currency than was the Bundesbank. However suspect the market's motive for such an attack, the price of fighting it – an early loss of credibility with respect to its inflation fighting credentials – would be far too high.

Mr Neumann's suggestion that the central bank be given the prerogative publicly to propose realignments is well taken. There is, of course, no guarantee that the parity it chose would cure a given economic imbalance – bureaucrats are often wrong. But so are markets.

The preferred modus operandi is surely one in which market and central bank respect and listen to each another. And, the UK authorities might find it easier to swallow the advice of the European central bank than they did the Bundesbank's.

This points to a structural reason why ERM II would be more likely to survive than the old ERM. There is a big difference between having a single country serve as the anchor and having seven or eight countries do so. Indeed, it was only in practice that the D-Mark came to anchor the old ERM: in theory the Ecu was supposed to do so.

The dramatic Bundesbank rate hikes which so strained European monetary relations in the early 1990s were a direct result of the Kohl government's purchase of east German votes (great politics, bad economics). The Maastricht treaty, however, explicitly rules out any such fiscal thrust on the part of Emu member states. Where tension arises between centre and periphery, it is therefore less likely that the monetary policy of the anchor will be its source.

William L. Jacobson,
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EU must act on airline competition

From Mr Per Stenmarck MEP.

Sir, I appreciate Mr Austin Reid's comments (Letters, June 26) on what I wrote (Letters, June 19) about airline alliances. I also appreciate the clarification which Mr Reid made on code-sharing agreements. His comments are reassuring. However the main problem remains. Code-sharing with a great number of other companies, 11 in the case of British Midland, is a distortion of competition. It does not, in any way, increase competition. Take the example of the proposed alliance between British Airways and American Airlines. Does that code-sharing agreement increase competition?

I welcome the European Commission's decision to look into the proposed alliance between BA and AA and also to take a good look at alliances that already exist. The European Union must take action, not only by encouraging competition through tougher rules regarding airline alliances, but also by increasing competition in the area of ground handling at airports and creating new rules for airport charges. New rules on slot allocation and air traffic management are also urgently needed. Combined with the deregulation scheduled for next year these improvements would increase competition and result in lower fares.

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member, transport group,
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A serious purpose

From S.D. Sandell.

Sir, The conferences on family policy which Vice-President Al Gore has organised and moderated each of the last five summers may sound ridiculous to Patti Waldmeir ("Family values put Clintons back on moral high ground", June 25), but their purpose is deeply serious – to focus on issues which affect the family, in all of its manifestations, on the basis that this is the social unit which provides far and away the most profound support and launch pad for our future citizenry and workforce. This year's conference addressed work and the family; your correspondent presumably is aware of the extent to which corporate policy and legislation – and not only in the US – is evolving to meet the demands of working parents.

Perhaps the informality of the conference was deceptive; nonetheless Ms Waldmeir's sarcasm does a disservice to a serious journal such as yours.

S.D. Sandell,
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Put warning label on management fads

From Prof Michael S. Minor.

Sir, The recent defection of Morgan Stanley chief economist Stephen Roach, the "guru of downsizing", to the position that management may have cut employee ranks too deeply is a relief to me as a business school professor. I never spent much time on downsizing in the classroom. Now I won't have students feeling that I have misled them.

Lucky me for avoiding this fad. But it brings up the deeper question of the appropriate role of business professors in showcasing all management "fads", especially at the graduate level, where students may be able to implement classroom learning in short order.

I shudder to contemplate the results if future physicians were educated with a significant dose of speculative treatments. Would, say, ingested orange peels cure cancer, or massive doses of such and such vitamin/amino acid/etc? My hope is that, while new physicians are not left ignorant of prospective breakthrough treatments, they are introduced to them with careful coaching as to their speculative nature, and students are reminded that considerable research must be done before the latest wacky idea is elevated to cure.

I fear that similar circumspection is absent from business school introductions to new management practices whose long-term effects have not been judged. It is a cautionary note that the "tried-and-true", while perhaps less scintillating, and provoking less discussion, at least has the force of having worked.

Fads should be treated as such, and perhaps most importantly, labelled as such.

Michael S. Minor,
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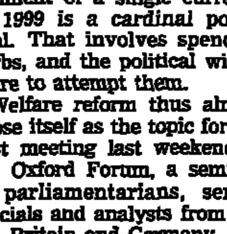
Andrew Adonis

The two faces of welfare



Can the welfare state be saved? The question is being asked across the developed world as policy-makers look at demographic trends and government spending projections and warn of dire straits ahead.

Four years ago Bill Clinton, the US president, took office pledging to "end welfare as we know it". That refrain is spreading from the US to western Europe, the cradle of the welfare state, where additional pressure to curb welfare spending is coming from the Maastricht treaty's rules on national debts and borrowing. For the French and German governments in particular, the establishment of a single currency in 1999 is a cardinal policy goal. That involves spending curbs, and the political will is there to attempt them.

Welfare reform thus almost chose itself as the topic for the first meeting last weekend of the Oxford Forum, a seminar of parliamentarians, senior officials and analysts from the US, Britain and Germany. The forum is designed to deepen mutual understanding beyond the strategic and security issues that preoccupy most such gatherings.

Most revealing was the contrast between the forum's opening paper and presentations and the subsequent discussion. "The problem of reconciling burgeoning welfare budgets with growing public deficits and dwindling workforces is large and cannot be ignored," noted the paper. From the initial statements it appeared that three things were agreed: welfare spending was unsustainable given demographic projections; a broad bipartisan consensus existed in each country about the need for change and its direction; and initiatives in one country could easily be translated to others.

All three dissolved in debate. The implications of demographic projections showing barely two workers for every retired person by 2040 were hotly disputed. A German MP from the opposition Social Democrats argued that insurance contributions for healthcare in Germany need rise only marginally over the next 15 years to cover the ageing population. After 2010 demographic change would impose significant new burdens, "but it would be wrong to sacrifice our socially oriented state through premature and possibly misplaced alarmism", he said.

Support came from the unlikely source of a British Tory minister who lauded the virtues of the UK's tax-financed comprehensive health service, noting caustically that alarmist projections about "unsustainable" growth in health spending had appeared every decade since its establishment in 1948.

It was soon clear that the delegates considered the predicament of each of their countries to be largely distinct from the others. British and American delegates gasped as the details of Germany's generous insurance benefits were explained. German unemployment insurance provides claimants with about 80 per cent of their previous income for one year and a somewhat lesser income-related figure for another two years. Then comes basic assistance without time limit, set at DM2,700 (£1,139) a month for a couple with two children. This is far in excess of the equivalent benefits available in the UK, let alone the US, yet German MPs insisted that only marginal adjustments were needed or politically possible.

> 'It would be wrong to sacrifice Germany's socially oriented state through premature and possibly misplaced alarmism about demography'

To the non-Germans, the surprise was that German unemployment – at 9 per cent it is nearly two-thirds higher than the US rate and a little above the UK's – was not higher still. This provoked discussion of the importance of wider social forces in shaping welfare states, notably the effect of Germany's superior education system and work ethic in limiting abuse of what one US Congressman dubbed "the biggest scrounger's charter in history".

It was the turn of the Germans to be aghast as US delegates explained the various proposals for "workfare" – work for social security benefits – being devised by US states for single parents. One US analyst predicted a "race for the bottom" in benefit levels as the federal government sought to withdraw from unemployment support.

"This is going back to the Middle Ages – beggary on the one hand and private charity on the other," a German MP declared. The British were divided. One Tory MP thought workfare was "right in principle and inevitable in practice", but the UK Treasury raised a host of practical objections.

It was not, however, a simple case of European resistance to American laisser faire. Both the British and Germans were surprised that relatively generous federal retirement pensions should be sacrosanct in the US, while other benefit levels are low and vulnerable and a national healthcare scheme seems an impossible dream. "It's pure politics – the elderly are untouchable," said a Congressman.

A dominant theme was sharply differing notions of the realm of the possible in the three countries. A German analyst declared workfare morally repugnant and impossible to implement given cultural memories of forced labour and slavery.

A British minister responded by questioning German military conscription, which he described as an "impossible concept" in the UK. Yet in Germany it is critical to providing social services given the high proportion of young men opting for civilian service as an alternative.

Healthcare was the one significant area where delegates believed it possible to copy policies across borders. There were sharp exchanges between US delegates about the fate of the 44m Americans without adequate health insurance cover and the profits of the Health Maintenance Organisations responsible for providing healthcare to many Americans. So too between British delegates about the need for rationing within the tax-financed National Health Service as demand outstripped the readiness of governments to supply the necessary resources.

The German health system – managed competition between insurance funds providing comprehensive health cover, with employees obliged to join one – won considerable enthusiasm. One UK Tory MP saw it as an "excellent means of eliminating rationing by passing the cost from the taxpayer to the private sector without giving up central control".

But it was the differences, not the similarities, between the three welfare systems that made the strongest impression. When a US Republican Congressman claimed that welfare was "basically a matter of poor relief – a struggle between our hearts and our pocketbooks which depends on our revenues", the extremes of American individualism and German solidarity were fully exposed. The British, typically, came through the middle.

COMMENT & ANALYSIS

FINANCIAL TIMES

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Keeping state aids in check

Yesterday's demand by Unice, the European employers' organisation, for tougher enforcement of EU rules on state aid to industry is to be applauded. The initiative not only focuses attention on a real economic problem but also suggests an encouraging shift in business opinion. In the past, few companies were ready to condemn government hand-outs from which they stood to benefit. Now, it seems, more are disposed to view such largesse as an insidious threat to fair competition.

The change of mood is particularly timely, when growth in many European economies is faltering. It is at this point in the cycle that European industry's walking wounded rattle their begging bowls most loudly. Despite Unice's defence of virtue, little suggests that these petitioners will be less vocal this time or their national governments less amenable to special pleading by influential vested interests.

In theory, the European Commission has impressive powers to block subsidies which jeopardise competition. In practice, its authority is much less clear-cut. The fact that its disciplines fall on the governments which give subsidies, rather than on the companies which receive them, means that crude politics often prevail over the rule of law. Not only is the commission heavily lobbied by national capitals; many of its members habitually refrain from opposing subsidies when producers in their own countries are seeking similar favours. Such pressures have repeatedly forced Brussels to retreat from its "One chance, last chance" doctrine on state aid to airlines.

For those reasons, Unice's call for an EU regulation setting out clearer rules and procedures for vetting state aid looks politically unrealistic. Proposals for stricter judicial restraints on governments' pursuit of national interest stand to win little support in the Council of Ministers. Even member states which want an independent EU cartel office to enforce competition policy would keep state aid out of its clutches.

Unice is on more promising ground in urging greater transparency in the handling of state aid and a more active role for business in ensuring that disciplines are enforced effectively. Brussels will be less inclined to bend the rules if its deliberations – and the political pressures on it – are exposed to fuller public scrutiny. Its resolve should be further stiffened by the increasing readiness of companies to challenge controversial decisions in the European Court of Justice.

In time, privatisation should reduce the incentive for governments to subsidise, while budgetary constraints should limit their means. But so long as they remain tempted to bail out favoured companies with taxpayers' money, more openness is needed to ensure that EU rules are enforced fairly. Meanwhile, aggrieved competitors should be ready to cry foul, kick up a stink and call for their lawyers.

Oil's well

The recent development of the UK's North Sea oil has been a remarkable success story. The industry's ability to cut costs, increase production and add reserves has been much greater than was expected only a decade ago. Operators are making money from oil in hitherto inaccessible reservoirs, despite the fact that crude prices (adjusted for inflation) are less than a third what they were in the early 1980s.

It was expected then that North Sea oil production would decline steeply after the early 1990s. But new techniques for almost horizontal drilling, much better ways of interpreting seismic data, and cheaper platforms have all combined to improve the outlook. It is now expected that production will not decline until near the end of the century and then only slowly.

Yet the North Sea oil industry confronts formidable problems. These include developing ever better technologies for the wild seas west of the Shetlands and finding ways to extract every last barrel from familiar territory in the North Sea.

It is this last problem which Mr Tim Eggar, the UK energy minister, is attempting to confront with his proposal this week to introduce *competitive* bidding into the next licensing round.

He intends to auction some 20 to 30 exploration blocks in "mature" sectors to try to speed up the rate of exploitation. Although the UK government has used competitive bidding before, most oil licences were allocated by a discretionary process. Under this system the government would evaluate oil companies' offers to explore a particular block of territory mainly in terms of the number of exploratory wells that each company said it would drill.

The discretionary system gave the government a great deal of power over the offshore operators, and may have been justified in the early years. But the process was slow, cumbersome and opaque. North Sea operators have been forming much more flexible commercial relationships in recent years to exploit difficult fields at minimum cost.

A simple auction of new blocks is the best way to reinforce this process. To achieve this, reserve prices must be set low, so that smaller companies may have the chance of picking up less favoured blocks; the government should also consider different types of bid, for example an offer to pay for the licence out of profits rather than up front. This would mirror the kinds of arrangement that oil companies have been making with contractors.

There is, moreover, a strong argument for extending the auction to the whole of the next licensing round rather than just to marginal blocks. In both cases the objective must be to provide incentives to maintain the pace of discovery rather than feeding the Treasury with gobbets of cash.

Communists still

Only a year ago Vietnam was the darling of the international investment community. It had resumed relations with the US, stood on the verge of joining the Association of Southeast Asian Nations and embarked on a path of rapid economic growth which promised to make it the next Asian miracle.

This week's Vietnamese Communist party congress was a harsh reminder of how misplaced that optimism was. Vietnam's economy is still growing at nearly 10 per cent a year, but its living standards are only around one tenth of those of Thailand and it has a worrying balance of payments deficit. Instead of pushing further down the road of economic reform, the congress emphasised the need for a strong state sector.

The moral is that, despite the remarkable rollback of communism around the globe over the last decade, many societies change slowly. Vietnam may be a country of 74m willing consumers, but obstacles to development are many. It is not just poor communications and infrastructure: above all, the party lacks a leadership able to promote reform.

Its caution is understandable. Vietnam's communists remain alarmed by the social and economic disintegration which afflicted the former Soviet Union as party authority waned. Hanoi's main pre-occupation is to keep control. Too much haste in economic reform would dilute that and risk political divisions between the enterpreneurial south and the more conservative north.

The ageing leadership, which has retained power, is also deeply suspicious of younger generations. The next generation down grew up during the war with the US and is Soviet-trained. It will be a long time before the technocrats are ready to take over.

Vietnam's new conservatism reflects a lack of self-confidence in the party. This was no doubt reinforced by an unprecedented objection from the congress floor in response to the old guard's effort to concentrate power in the hands of a committee of five members of the politburo.

In this climate it would be foolish to expect too much of new investment rules supposedly designed to encourage projects with technology input and export potential.

Vietnam's cadres now apparently think safety lies in keeping foreigners at bay, but this is not a sustainable approach. Expectations have been raised, and Vietnam will be able to deliver a last-gasp increase in living standards only if it opens up its markets, reduces the role of the state and learns to eschew reliance on the party patronage that pervades almost every government and commercial decision.

Were it able to do that, Vietnam really might become an Asian miracle. Unfortunately, its congress is a reminder that in real life, miracles are rare.

Power brokers at the bedside

Boris Yeltsin is expected to win Russia's presidential election but the struggle to succeed him is already on the agenda, says **Chrystia Freeland**

When Boris Yeltsin was elected president of Russia in 1991, he assumed the position of the powerless head of a Soviet province. Only months later, the Soviet empire collapsed in disarray, and the Russian leader became, by default, the ruler of the Kremlin.

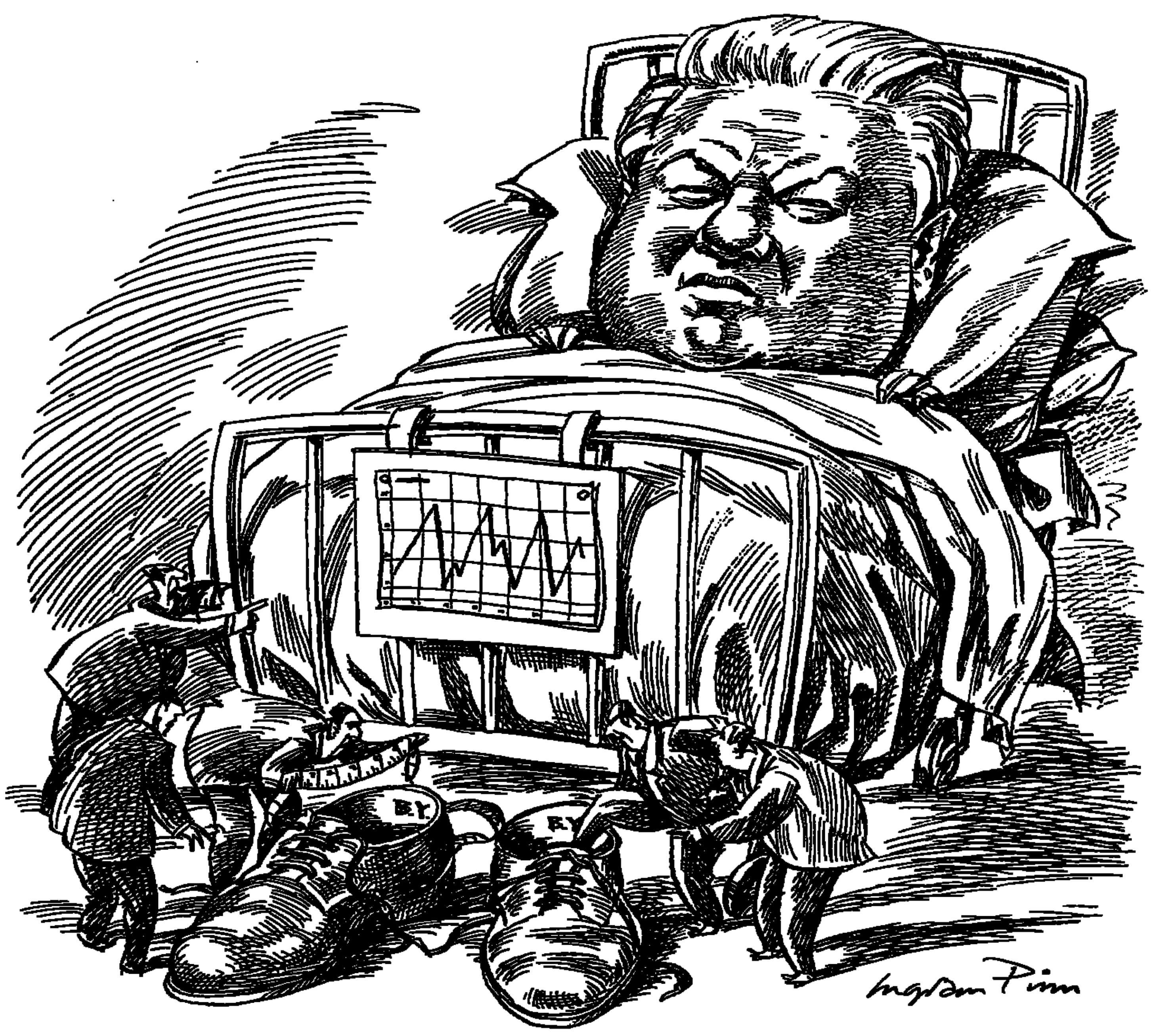
Today, President Yeltsin is facing Russian voters in the first genuinely democratic election of a national leader in the country's history. And yet the celebratory mood which should have greeted this extraordinary achievement has been soured by the visit of an unwelcome spectre from the authoritarian Soviet past.

Mr Yeltsin has degenerated over the past week into a sickly and secluded figure, uncomfortably reminiscent of the geriatric Communist party Politburo bosses who ruled the Soviet Union in the bad old days. The man whom millions of Russians had hoped to re-elect as the embodiment of the country's democratic future has been skulking in his dacha outside Moscow, allegedly suffering from a sore throat.

For Mr Gennady Zyuganov, the Communist challenger, the president's unexpected regression from an energetically flesh-pressing, street-dancing campaigner into the world's most powerful recluse has been a political windfall. The Russian leader's ill health has galvanised the Communist team into a frenzy of eleventh-hour activity as the comrades sense that it may still be possible to seize victory from the jaws of defeat.

After months of soporific campaigning which even ardent supporters were reduced to praising as "calm" and "solid", the Communists have suddenly learned how to produce snappy sound bites.

"We haven't seen him [Mr Yeltsin] for several days and today they showed us a painted mummy as if they'd just got it from the mausoleum," said Mr Stanislav Govorukhin, a pro-Communist film director after the Russian president gave a stumbling performance on television on Monday. "They are suggesting we vote for a living corpse."



It was a great line which, in a more mature democracy, would have done further damage to the reputation of a 65-year-old leader who has already suffered two mild heart attacks in 12 months. Yet despite the president's temporary disappearance, the consensus in Moscow remains that he will be re-elected. Even one of the top campaign strategists for Mr Zyuganov admitted yesterday that his candidate was likely to lose.

On June 16, Mr Yeltsin emerged from the first round of this two-stage presidential poll with a three percentage point lead over his main challenger. Since then, he has improved his chances for the run-off by inveigling General Alexander Lebed, former darling of the Red Army and hero of Afghanistan, who came third in the poll, to join his regime. He also seems certain to win over a majority of the supporters of Mr Grigory Yavlinsky, the liberal candidate who finished fourth. So the only threat to his chances would appear to be his physical frailty.

Muscovite pundits and financiers, both foreign and domestic, are still betting on Mr Yeltsin, not least because the Kremlin's stranglehold over the nation's media has meant that most Russians are only dimly aware of the president's ill health. But while the compliant press could help keep the Communists from coming to power in today's poll, even the most supine journalists cannot protect Russia's ruling elite from the worrying realisation that Mr Yeltsin might not survive until the end of a second four-year term.

Thus, even before a single ballot has been cast this morning, Kremlin insiders have begun planning how to manage Russia's next succession struggle, the fight for power set off if Mr Yeltsin dies or is incapacitated after winning re-election.

For a country, and a political elite, whose overwhelming desire is for stability, the prospect of facing another divisive contest for the Kremlin so soon is deeply unwelcome. Worse still, without the charismatic and unifying presence which Mr Yeltsin supplied in his more vigorous moments during this spring's election campaign, the present government could risk being defeated in a rematch against the battle-hardened Communists.

Many Kremlin power-brokers also harbour growing suspicions of Mr Lebed, the new head of the Security Council, who in less than two weeks has undergone a rapid political metamorphosis from outsider, to crown prince, and now to a suspect cuckoo in the nest.

Mr Yeltsin welcomed him into the corridors of power last month in an effort to woo the 11m voters who backed him in the first round of the elections. But within days the maverick officer managed to alienate the authoritarian faction in the Kremlin by conniving in the dismissal of its leaders. Then, just as he seemed poised to become the democrats' new darling, Mr Lebed changed tack and horrified the liberal camp in the government with a series of nationalist comments so harsh as to provoke a public rebuke from US President Bill Clinton.

Mr Lebed's unpredictability and the fear that the Communists might prove unbeatable if new elections were to be held within the next six months has created a strange paradox for Mr Yeltsin's entourage.

On the one hand, the Kremlin team is desperate to beat Mr Zyuganov. To that end it has launched a vociferously anti-Communist campaign, featuring burning churches, footage of Stalinist labour camps and warnings of a return to the chronic food shortages of the Soviet era.

But at the same time, Mr Yeltsin's allies have begun to prepare public opinion for a coalition government with the Communists after today's vote. Mr Victor Chernomyrdin, the prime minister, said this week that he would welcome opposition politicians into his cabinet and that he is "certain" they will accept the invitation. Mr Lebed, who recently told Russians of his genetic hatred of communism, changed his mind on Sunday and called for a grand coalition.

The Communists seem equally prepared to abandon their fierce rhetoric and team up with their opponents after what they clearly regard as the messy formality of voting has been completed. Mr Zyuganov said last week that if elected he would form a broad coalition government and might even ask Mr Chernomyrdin to stay on as premier. Mr Aman Tuliev, one of the most prominent politicians in the Communist camp, went further, suggesting this week he would be willing to serve in a Yeltsin cabinet.

All this has persuaded many Kremlin watchers that a coalition government is the most likely outcome of an election which Russian politicians – and many western observers – have sought to portray as a violent clash between two incompatible ideologies.

"I am convinced that if Yeltsin wins, the ruling elites will bring the Communists into their government," said a western diplomat in Moscow. "It's the only way for them to avoid another messy succession struggle if Yeltsin doesn't last."

The talk of coalition-building is a reminder that western-style democracy is still a fragile and alien seedling in the soil of Russia's collectivist and authoritarian traditions. Since medieval times, Russia has been ruled from above by a class which allowed political conflicts to emerge only within the confines of a narrow elite. Any disputes which emerged in the rest of society were ruthlessly suppressed.

Even the democratic breakthrough represented by today's ballot is not free from such traditions, as shown by the behaviour of the country's media, whose diversity and openness were once hailed as one of the great achievements of the post-Soviet revolution. Over the past few months Russia's most talented liberal journalists have leapt on to the government bandwagon, writing shamelessly pro-Yeltsin stories and cheerfully passing off Kremlin black propaganda as inside "scoops" about the Communists.

Millions of the Russians casting their votes today have been given no information to suggest that one of the two candidates on their ballot papers is in such delicate health that he has barely managed to stumble through a single, tightly edited television appearance in the past week. Their choice may be free, but it will be ill-informed, and that will be the fault of a Russian liberal elite that prides itself on its "democratic" convictions.

The media's willingness to conceal Mr Yeltsin's health problems in the name of freedom and democracy is a striking example of the curious hybrid of western ideals and Soviet habits which characterises post-communist Russia.

Mr Yeltsin is in many ways an apt leader for a nation still in a political limbo between its painful past and its dreams of a happier future. He may look disturbingly like former Soviet leader Leonid Brezhnev in the sclerotic final years of his reign. But, for the first time ever, the man who enjoys supreme power in the Kremlin is submitting to the verdict of the ballot box.

· OBSERVER ·

Prodi gets hoodwinked

■ When battle-lines are drawn in Italy it's usually between north and south, or Catholics and communists – rarely explicitly between rich and poor. Hence Italians' interest in comments at the weekend by Romano Prodi, prime minister of the new centre-left government. Prodi appeared to compare his government's economic policy to that of Robin Hood – in other words, taking from the rich to give to the poor.

The idea of the chubby Prodi kitted out in green tights and armed with a bow and arrow is only slightly more absurd than the pictures of him in full cycling kit which regularly appear in the Italian press, but his simile nevertheless struck a chord. The theme was adopted by Gianni Agnelli, honorary chairman of Fiat and subject of last month's admiring cover story in Panorama, Silvio Berlusconi's weekly news magazine, which asked "What use are the rich?" Good question.

Berlusconi, it turns out, is almost twice as rich as Agnelli – at any rate, according to *Forbes* magazine's latest ranking of the world's wealthy – and is about to get even richer. The former Italian premier stands to receive just over L1,000bn from this week's flotation of shares in Mediaset, his media empire. But Agnelli got his own back yesterday. When asked to comment on the *Forbes* ranking, he mischievously replied: "Sounds like it might interest Robin Hood."

Waste disposals

■ A friendship that began eight years ago on a Florida beach has borne succulent fruit for Michael Ashcroft and Michael de Groote. Soon after meeting they forged a deal to turn Laidlaw, the Ontario-based waste and transport operator founded by De Groote, into the biggest single shareholder in ADT, Ashcroft's Bermuda-based security services and car auction company.

Belgian-born De Groote quickly sold his Laidlaw stake and pocketed about half a billion dollars. He said he was retiring to Bermuda, but resurfaced at the head of Republic Industries, a fledgling waste-management outfit.

Republic was fired up last August, when De Groote handed the reins to another friend and self-made entrepreneur, Wayne Huizenga. Under Huizenga, Republic has aggressively expanded. And as Republic's vice-chairman De Groote was on hand at this week's announcement that Republic has offered to buy ADT for $5bn.

The big loser in De Groote's deals has been the Canadian company he led for more than 30 years. Soon after he left, Laidlaw's management became embroiled in an acrimonious corporate governance dispute with Ashcroft. That unhappy episode culminated in Laidlaw's selling its 24 per cent stake in ADT earlier this year for $14.40 a share; Republic's offer values ADT at a cool $25.

All yin, no yang

■ Two steps forward, one pace back. The Chinese foreign ministry has decided that holding bilingual press conferences (in English and Chinese) is a mark of unseemly deference to old colonial ways. From September, all will take place solely in Chinese.

This will certainly come as a shock to the many foreign hacks whose grasp of Chinese is not profound. Instead of thinking the foreign ministry merely inscrutable they will now find it's also become incomprehensible.

Safra sighting

■ Edmond Safra, one of the world's better known, least seen bankers, has placed a hefty bet on Monte Carlo. His bank, Safra Republic Holdings, has moved into Aristotle Onassis's old offices on Monaco's Avenue d'Ostende, next door to the Hotel Hermitage.

Old Monte Carlo hands will remember the address. It's where the late Greek shipping tycoon used to canoodle with Maria Callas. These days, recession-hit *Monte Carlo* lacks its former buzz; all the more intriguing that Safra, 64, is betting on its becoming a profitable financial centre.

On Sunday night, he made something of a splash, taking over the Monte Carlo opera house and hiring an unusual diva, Baroness Thatcher, as star performer. She had nothing new to say but the audience – whose net worth probably exceeded Monaco's gross national product – lapped it up.

Nor is his new bank a brass plate affair; it boasts a decent-sized dealing room and a staff of about 50. Safra says banks need to get closer to their wealthy clients and not wait for them to fly to Geneva or Zurich. Hardly a revolutionary idea, but then nothing in banking ever is. The only difference with Safra is that he likes to bet on outsiders such as Guernsey, Gibraltar and Lugano. Based on past performance, Monte Carlo should come up trumps.

Bang bang Lebed

■ Alexander Lebed wants extra powers to deal with Russia's security problems. He says that in his war against crime "we'll shoot people, but reasonably, with minimal losses for the law enforcement bodies, and only those people who refuse to be persuaded". Sounds like the good old days are just around the corner.

The Financial Times

100 years ago

Mr. Rhodes's Resignation
Bulawayo:- At a mass meeting held here today to protest against the action of the British South Africa Company in accelerating Mr. Rhodes's resignation, the following resolution was passed:- "This meeting protests upon the grounds: (1) that the past services of Mr. Rhodes should have ensured his retention of office; (2) that his withdrawal seriously prejudices the Company in the eyes of the people as well as the best interests of British investors; and (3) that the more rapid development of the country that the colonists had the right to expect will be retarded in the event of Mr. Rhodes's withdrawal from the Colony."

50 years ago

Rail Holders' Referendum
Every post yesterday brought large numbers of applications for membership to the British Railway Stockholders Union and the L.N.E.R. Stockholders Association, following the appeals of the Boards of the four main-line railways for a mandate from the stockholders for their anti-nationalisation policy.

The union secretary said the two days' returns suggest the widest realisation of the dangers of nationalisation not only to stockholders themselves but also to industry and the nation.

FINANCIAL TIMES
Wednesday July 3 1996

Japan allocates $155bn for research spending

By William Dawkins in Tokyo

The Japanese government yesterday adopted a "master plan" to allocate Y17,000bn ($155bn) to science and technology over the next five years, a substantial increase in state spending on basic research.

The scheme aims to overcome the reputation of the Japanese as great developers of other people's ideas but poor innovators. The government's science and technology agency believes the country's weakness in research is a serious competitive handicap. "The nation's technology is currently in its most severe condition in recent years," its report said.

The agency says the Japanese R&D structure's main deficiency is the domination of public research laboratories by senior lifetime employees. The country's respect for seniority still takes precedence over promoting the best young scientists, it says.

It proposes an overhaul of the research career system, to employ scientists on short-term contracts related to projects and to allow state-employed researchers to take second jobs in the private sector, a common practice in the west.

"Japanese society is very conservative and this is especially true in R&D. It is very important to change and to improve researchers' conditions," said Mr Shizuo Hoshiba, a senior agency official and the plan's deputy director.

The plan would lift state-funded research spending to US and European levels of about 1 per cent of gross domestic product. But officials admit actual spending might fall short of the target because the finance ministry, keen to curb the budget deficit, retains control over the annual research budget.

If the funding target is met, the plan would represent a 5.8 per cent increase in research spending compared with the past five years. It proposes that spending should rise by just over 12 per cent a year until 2000, to reach Y4,300bn annually. That would be double the level in 1992, when the agency drew up the plan.

Mr Hoshiba said spending would focus on training, co-operation between research projects and the purchase of equipment and computers for the government's research laboratories.

Currently, 80 per cent of Japan's $130bn-a-year science and technology spending is carried out by the private sector – with nearly all devoted to applied, rather than basic research.

An outline of the plan was adopted by the cabinet four years ago, and has since been the subject of a fierce debate with the finance ministry. The ministry resisted setting a numerical target for research spending without a clear idea of what the projects would entail. In the event, the finance ministry's assent was won by a compromise, in which it has the right to review research spending annually in the light of the government's financial condition.

Japan throws money at research, Page 5

Thai bank governor quits after financial scandals

By Ted Bardacke in Bangkok

Mr Vijit Supinit, the governor of Thailand's central bank, resigned yesterday, bowing to sharp public criticism of his role in a series of financial scandals over the past year.

His resignation was welcomed by the domestic and foreign financial communities, which had lost faith in his ability to maintain the Bank of Thailand's much-admired independence. Mr Vijit's departure was widely expected and a successor is expected to be announced early next week.

Mr Vijit, who had spent his entire career at the central bank and had been governor for the past five years, was regarded as a forceful economic manager. But recently his political motives and professional integrity came under attack.

He played a significant role in the sacking of Mr Ekamol Khiriwat as head of the Securities and Exchange Commission.

Mr Ekamol, who was also deputy governor of the central bank, was seen as a potential rival to Mr Vijit.

His loss of credibility also rendered him impotent in the face of increasing political pressure on the bank to abandon its restrictive monetary policy.

Last year, Mr Vijit had successfully resisted calls from prime minister Banharn Silpa-archa to lower interest rates but he appeared to relent over the past week as his political strength waned.

Bangkok Bank and Thai Farmers Bank, two of the country's largest commercial banks, greeted Mr Vijit's resignation with announcements that they would immediately cut some lending rates.

Mr Vijit was further damaged when it was revealed that he had soft-peddled months of warnings that a medium-sized commercial bank, the Bangkok Bank of Commerce, was engaged in dubious lending practices.

The government was forced to take over the bank last month in a $2bn rescue.

Mr Vijit allowed the bank to give unsecured loans to prominent politicians to buy land that was then overvalued by as much as 10 times and then used as security for new loans from the bank.

Six former Bangkok Bank of Commerce executives or employees have been indicted on charges of fraud.

Analysts said while Mr Vijit's resignation was a positive step in stemming the decline of the bank's credibility, its continued independence could be ensured only if the government chose a tough and strong-willed replacement. But this was unlikely, analysts cautioned.

Chief falls from grace, Page 5

Credit Suisse

Continued from Page 1

banking business after J.P.Morgan of the US. Its net income would have been $1.2bn in 1995.

CS said the changes had been discussed since the end of last year and were not related to the failed UBS merger.

Mr Hans-Ulrich Doerig, vice chairman of Credit Suisse, becomes chief executive of Credit Suisse First Boston in an apparent attempt by the Swiss to tighten their grip on their volatile international investment banking subsidiaries. Mr Allen Wheat, president and chief operating officer of CS First Boston, becomes chief operating officer. Mr John Hennessy, chairman of CS First Boston, is retiring from active management.

Digital jobs

Continued from Page 1

"intact". "We expect to remain profitable," he said. "We will be back on track by December."

Mr Palmer said Mr Enrico Pesatori, general manager of Digital's Computer Systems Division and a vice president of Digital, had resigned with immediate effect. Digital's core businesses, which include high performance computers and its services operations, remained strong with double-digit sales growth.

In Europe, Digital's sales fell about $150m short of expectations in the fourth quarter, Mr Palmer said. Digital's European operations would also be cutting jobs, mostly in administration and support areas. Of the 7,000 job losses over the next year, about half are expected to be in Europe. Digital now has a worldwide workforce of about 61,000, about half its peak in the 1980s.

Canadian group in $400m Cuban deal to build hotel chain

By Pascal Fletcher in Havana

A Canadian entrepreneur is undertaking a $400m joint venture to build 11 tourist hotels in Cuba in the island's biggest foreign investment deal since the US introduced measures in March to discourage foreign business there.

Mr Wally Berukoff, who runs a group of mining, property and other companies and already has investments in Cuba, signed the deal with Cuba's state hotel corporation Gran Caribe.

The 10-year project is the biggest planned joint venture investment announced so far in Cuba's growing tourism sector. It will also be the largest investment in Cuban tourism by Canada, which, along with Spain and Mexico, is a significant investor in the island. Canadian investment in Cuba has been heavily concentrated on mining, although at least two Canadian companies manage Cuban hotels.

The announcement was a further signal that some determined foreign investors do not intend to be put off by Washington's Helms-Burton law. The US legislation threatens penalties against foreign companies which invest in property expropriated from Americans in Cuba following the 1959 revolution.

Canada's government last month proposed retaliatory legislation which would allow Canadians to countersue in Canadian courts to recover any damages which might be awarded against them in US courts under the Helms-Burton law.

Mr Berukoff, who is based in Vancouver, has interests in two advanced gold projects in Cuba and has also invested in a Cuban-Canadian biotechnology joint venture. He said his lawyers had checked the proposed hotel sites in Cuba, which were subject to no known US claims.

"We have been very careful not to deal with confiscated US properties," he said.

The 50-50 hotels joint venture was constituted by Cuba's Gran Caribe and one of Mr Berukoff's companies, Wilton Properties, which is registered in the British Virgin Islands. The Canadian-Cuban venture, called Vancuba Holding, plans to build 4,200 hotel rooms over the next decade, distributed in 11 hotels.

"I see it as a long-term investment," Mr Berukoff said, adding he viewed Cuba as a growth market for tourism. He said the projected rate of return on the investment was "more than adequate" but declined to give details.

One of the 11 planned hotels would be built in Havana and two on Cuba's Isle of Youth, where one of Mr Berukoff's companies, Miramar Mining Corporation, already has an advanced gold and silver project. Three more hotels were planned on the Cuban offshore tourist island, Cayo Largo del Sur.

But the bulk of the project, comprising five hotels, would concentrate on the development of a north coast beach site at Jibacoa, some 50km (30 miles) east of Havana. This would include a golf course, ranch, marina and cruise ship facilities.

THE LEX COLUMN

Credit's crunch

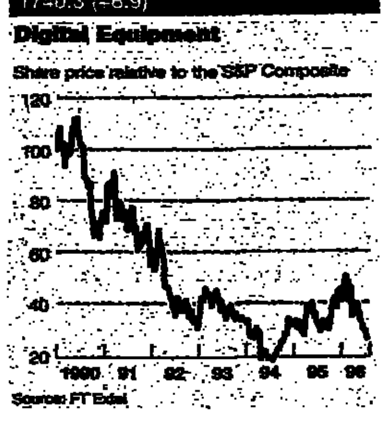
Credit Suisse, the oldest of Switzerland's three big banks, has long been due for a facelift. April's embarrassing failure to bounce bigger rival UBS into a merger seems to have finally galvanised its management into action.

Yesterday's rationalisation sweeps away a tortuous group structure under which stand-alone businesses overlapped and even competed with each other. The new organisation places greater emphasis on asset management and private banking – relatively stable and profitable areas – by assigning them equal divisional status with retail and investment banking. There is nothing innovative in this: SBC put an almost identical structure in place after the takeover of SG Warburg. But Credit Suisse has also found itself a highly-rated new chief executive in Mr Lukas Mühlemann, a former management consultant who has won plaudits for restructuring insurance group Swiss Re.

Mr Mühlemann has plenty to get his teeth into. Due to 1993's disastrous acquisition of Volksbank, Credit Suisse is losing money in Swiss retail banking even though it is market leader with a 30 per cent share. Yesterday's job cuts and branch closures, which should yield the bulk of promised savings totalling SFr700m ($560m), are the first serious attempts to cut costs at home.

The real challenge, though, is to sort out Credit Suisse First Boston, the investment banking arm. Although CSFB should be a very valuable asset as the only European bank with a real foothold on Wall Street, its returns have been mediocre. This reorganisation beefs up CSFB by bringing the profitable derivatives unit under its aegis and uniting commercial and investment banking, a move which Mr Rainer Gut, chairman, has always fought against. Whether it will help CSFB to match rivals like Goldman Sachs or Morgan Stanley for profitability is much more doubtful.

FT-SE Eurotrack 200:
1740.3 (+6.9)



Source: FT Extel

Digital Equipment

Digital Equipment is back to its bad old ways. Barely a year after the computer group had apparently turned the corner, it has unveiled another huge restructuring charge. Mr Robert Palmer, chairman and chief executive, may point out that the restructuring charge at $475m and the associated 7,000 job cuts are smaller than some other hits Digital has taken in recent years. But it is still a substantial blow to the credibility of both the company and Mr Palmer.

The root cause of Digital's problems is fairly basic: it badly forecast demand for personal computers at the end of last year with the result that too many of its PCs were stuck with distributors when sales and prices fell earlier this year. Tougher competition in the PC business is, of course, something that all manufacturers have had to face. But Digital has been particularly poor at responding to the challenges. That probably reflects the fact that it has never been adept at making money in commodity businesses.

Looking forward, Digital's decision to cut further its presence in PCs seems sensible. Its other businesses – notably providing computer services and making "servers", powerful computers that sit at the heart of networks – are more profitable. Moreover, Digital has competitive advantages in these areas as a result of its strategic alliance with Microsoft and Alpha, its fast microprocessor. But even these markets are becoming increasingly competitive. Unless Digital rapidly demonstrates that it is back on the recovery track, the few advantages it still possesses will be eroded.

Mastercard

Mastercard certainly knows how to pick a fight. Just a matter of weeks after the European competition commissioner warned fellow credit card company Visa against stopping its member banks from issuing rival cards in Europe, Mastercard has decided to try the same trick in the US. Of course, it has a simple defence. Visa has already quietly got away with such a practice in the US, on the basis that it it is rightfully defending its brand. However, since American Express or other card issuers have to build their own brands and computer and service networks, there is little strength in the argument that they would be cashing in on Visa/Mastercard's investment. And it will be interesting to see whether the US government is prepared to be painted as a less vigorous anti-trust policeman than Europe.

American Express should feel immensely flattered. The moves by its competitors must be interpreted as a response to its new strategy of trying to expand its distribution by using a network of banks – many thousands of which are members of either Visa or Mastercard. Visa, however, will probably be less impressed. Mastercard's latest move must inevitably encourage a degree of scrutiny at Visa's own US arrangements, which is unlikely to be all that welcome.

Orange

Orange has yet to face a real squeeze. But some of the enthusiastic forecasts that accompanied the cellular operator's March flotation may have to be scaled back. For the second quarter running, net growth in customers has fallen. The decline may not be large: 85,000 customers were added in the three months to end-June, down from 108,000 in the previous quarter and 115,000 in October-December last year. But the strong momentum that Orange had developed in the run-up to its flotation has evaporated.

Two things have happened. First, overall growth of the UK cellular market has slowed: there were fewer than 300,000 net new customers in the last quarter – a drop of nearly 40 per cent compared with the same period of the previous year. There is, as yet, no convincing explanation for this. But if the slowdown persists, the industry will either have to cut prices to boost sales or to live with less rapid growth than once seemed likely. Either way, Orange would suffer more than Vodafone, its main quoted rival: not only is Orange, which is still loss-making, effectively a geared play on the UK cellular market; Vodafone's fast-growing international business provides a cushion.

The second development has been a slight fall in Orange's share of net new customers – from about 33 per cent in the first quarter to 29 per cent in the second quarter. The drop should not have been surprising; after all, Vodafone and Cellnet have only recently brought their tariffs down to cut Orange's pricing advantage and stepped up their marketing campaigns. Even after the recent fall, the Orange share price could be peeled back further.

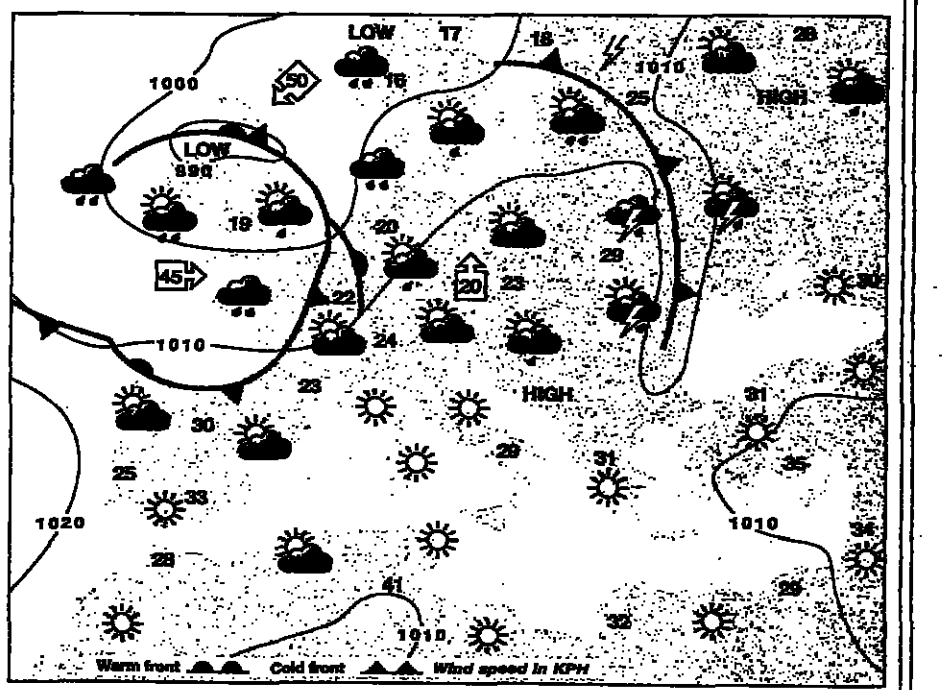
FT WEATHER GUIDE

Europe today

Unsettled conditions will prevail throughout the British Isles. Scotland will have rain and strong easterlies are expected in northern regions. Southern regions of England, Wales and Ireland will have patchy cloud with showers. South-westerly winds will be strong in the Irish Sea and a fresh breeze will blow along the east coast of England. Western and central France and the Benelux will have rain as an active front associated with low pressure in Scotland sweeps eastward. The rain will spread across western and northern Germany in the afternoon. A weak ridge of high pressure will bring dry conditions with sunny spells to eastern Europe. Thunderstorms are likely near a front sweeping east across Romania and the Ukraine, as well as western parts of Russia. The Mediterranean will be sunny.

Five-day forecast

Showers are expected throughout the British Isles and in western and central Europe. There will be heavy thunderstorms over southern France and the Alps on Friday and Saturday. It will become cloudy with occasional rain in northern Spain. Elsewhere in Spain, southern Portugal, Italy, Greece and Turkey it will continue sunny and hot.



Situation at 12 GMT. Temperatures maximum for day. Forecasts by Meteo Consult of the Netherlands

TODAY'S TEMPERATURES (Maximum Celsius)

Abu Dhabi	sun	44	Beijing	fair	31	Caracas	fair	31	Faro	sun	27	Madrid	sun	34	Rangoon	cloudy	31
Accra	thund	28	Belfast	shower	16	Cardiff	cloudy	17	Frankfurt	cloudy	23	Majorca	sun	27	Reykjavik	fair	13
Algiers	fair	27	Belgrade	shower	26	Casablanca	fair	24	Geneva	sun	25	Malta	sun	30	Rio	fair	28
Amsterdam	rain	18	Berlin	fair	19	Chicago	sun	26	Gibraltar	sun	28	Manchester	shower	16	Rome	sun	29
Athens	sun	33	Bermuda	rain	22	Cologne	rain	22	Glasgow	shower	15	Manila	fair	35	S. Frsco	fair	24
Atlanta	thund	34	Bogota	cloudy	18	Dakar	fair	31	Hamburg	rain	18	Melbourne	fair	15	Seoul	fair	30
B. Aires	fair	13	Bombay	shower	32	Dallas	sun	37	Helsinki	cloudy	17	Mexico City	fair	18	Singapore	cloudy	32
B.ham	cloudy	17	Brussels	rain	19	Delhi	fair	32	Hong Kong	shower	31	Miami	thund	33	Stockholm	fair	16
Bangkok	thund	36	Budapest	fair	23	Dubai	sun	43	Honolulu	fair	31	Milan	fair	25	Strasbourg	fair	24
Barcelona	fair	25	C.hagen	cloudy	15	Dublin	shower	17	Istanbul	sun	32	Montreal	rain	21	Sydney	fair	19
			Cairo	sun	36	Dubrovnik	sun	28	Jakarta	fair	31	Moscow	shower	22	Tangier	fair	27
			Cape Town	shower	13	Edinburgh	rain	16	Jersey	shower	16	Munich	fair	21	Tel Aviv	sun	34
									Karachi	fair	34	Nairobi	fair	25	Tokyo	thund	29
									Kuwait	sun	45	Naples	sun	30	Toronto	fair	30
									L. Angeles	fair	25	Nassau	thund	30	Vancouver	shower	23
									Las Palmas	fair	26	New York	shower	23	Venice	cloudy	23
									Lima	drzzl	18	Nice	sun	28	Vienna	fair	23
									Lisbon	sun	24	Nicosia	sun	36	Warsaw	fair	21
									London	cloudy	19	Oslo	cloudy	17	Washington	fair	31
									Lux.bourg	rain	19	Paris	cloudy	22	Wellington	shower	9
									Lyon	sun	26	Perth	shower	17	Winnipeg	fair	29
									Madeira	fair	25	Prague	fair	21	Zurich	sun	22

FINANCIAL TIMES
COMPANIES & MARKETS
Wednesday July 3 1996

IN BRIEF

Morgan Stanley boosts earnings

The continuing strength of financial markets helped Morgan Stanley, the investment bank, to nearly double earnings per share in its second quarter to May 31. Fully diluted earnings per share for the quarter were $1.75, up from 91 cents in the same period of 1995, and from $1.57 in the first quarter. Mr Philip Duff, chief financial officer, said "the operating environment has been about as ideal as one could imagine". Page 16

Olivetti may name new chief tomorrow
Directors of Olivetti, the Italian computer group, could name a replacement for Mr Corrado Passera, the outgoing chief executive, as early as tomorrow following Banco Ambrosiano Veneto's announcement yesterday that Mr Passera will be the bank's new chief executive. The front-runner to replace Mr Passera is Mr Francesco Caio, chief executive of Omnitel Pronto Italia, the mobile phone company in which Olivetti has a 41 per cent stake. Page 14

Gloomy start for Stena Line
Stena Line, the Swedish ferry company, has had a gloomy start to the summer season. Stena, the world's largest ferry operator, was forced to issue a profits warning last month because of the effects of competition on the English channel from Eurotunnel, and delays in introducing its High-speed Sea Service (HSS) vessels on the Irish Sea. Page 14

NYSE targets overseas stock
The New York Stock Exchange has underlined its global ambitions by recruiting Mr Georges Ugeux to the new post of group executive vice-president, international. However the exchange has dropped plans to begin trading in non-US companies' shares in their home currencies. The intention had been to start a pilot scheme this autumn but the plan has been put off, with no firm date set for a launch.

John Fairfax picks chief executive
John Fairfax, Australia's leading newspaper publisher in which Mr Conrad Black, the Canadian media tycoon, holds the largest single stake, announced it was appointing Mr Robert Muscat as chief executive. Mr Muscat is currently chief operating officer at News Limited, the Australian arm of News Corporation, the media and entertainment group headed by Mr Rupert Murdoch. Page 16

Cookson acquires Camelot Systems
Cookson Group, the UK industrial materials company, strengthened its presence in electronic components by acquiring Camelot Systems, the US dispenser manufacturer, for up to $100m. The UK group said the acquisition would make it the world's only integrated manufacturer of electronic materials, laminates and circuit board equipment for the semiconductor industry. Page 17

Dutch give zinc smelter more time
The Dutch authorities have agreed to give Pasminco of Australia more time before it has to stop dumping poisonous jarosite waste at its Budel zinc smelter in the south of the country. Page 20

Companies in this issue

Market Statistics

Chief price changes yesterday

FRANKFURT (DM)			
Rises			
Bilf & Berger	630	+	8
Didier Werke	120	+	4
Hochtief	884	+	7
Lufthansa	224.5	+	3.5
Falls			
Deutsche Babcock	88	–	3
Kali & Salz	228.5	–	4
NEW YORK ($)			
Rises			
HCC Ins	24⅜	+	1⅜
Tele Peru	22⅞	+	2⅛
Falls			
Caliber Sys	29¾	–	3¼
Digital Equip	41½	–	4⅞
Foxmeyer Hlth	12¾	–	1¼
Guaranty Natl	16	–	1⅞
LONDON (Pence)			
Rises			
CPL Aromas	440	+	40
[illegible]	267	+	32
York Tyne-Tees	1238	+	75
Falls			
ABT	1350	–	200
Coda	148	–	14
Wimpey (G)	147	–	12
TORONTO (C$)			
Rises			
[illegible]	45.4	+	4.65
[illegible]	24.25	+	2.5
Tri-Link Res	18.75	+	2.0
Falls			
Arequipa Res	18.6	–	2.0
Minorca Res	2.5	–	0.8
Q-Zar	7.1	–	0.55
PARIS (FFr)			
Rises			
SGS-Thomson	185	+	8.7
Falls			
Fonc Lyonnaise	553	–	42
Intertail	238	–	9.8
Peugeot	861	–	21
Synthelabo	415.9	–	17.1
UFB Locabail	485	–	14
TOKYO (Yen)			
Rises			
Sodo Shusei	869	+	24
[illegible]	938	+	25
Falls			
Hoya	3310	–	120
Kaneka	708	–	25
Murata Manufctr	3980	–	130
Meson Elec	863	–	27
HONG KONG (HK$)			
Rises			
Midland Realty	6.5	+	0.35
YGM Trading	8.9	+	0.85
Falls			
Asean Res	2.05	–	0.4
Cafe de Coral	2.075	–	0.125
China Elegance	2.575	–	0.175
Vanda Sys	1.57	–	0.09
BANGKOK (Baht)			
Rises			
Thai P&C	123	+	11
Thai Rubber	28.25	+	2.5
Falls			
Alcohol Hold	42.75	–	4.25
Nakornthon Bk	82	–	8
Precious Ship	98	–	8
Thai Rayon	121	–	10

New York and Toronto prices at 12:30.

Joint venture to build long-haul aircraft to compete with Bombardier and Gulfstream

Boeing and GE enter corporate jet market

By Michael Skapinker, Aerospace Correspondent

Boeing and General Electric, both of the US, yesterday launched a joint venture to build business jets capable of flying from New York to Tokyo and London to Johannesburg.

The joint venture comes at a time of intense competition in the executive jet market between Bombardier of Canada and Gulfstream Aircraft of the US, which are also producing aircraft capable of flying 6,500 miles.

Boeing said yesterday that its jet, based on the new Boeing 737-700, would be bigger than either the Gulfstream V or Bombardier's Global Express.

Mr Philip Condit, Boeing chief executive, said the aircraft would also be more flexible than any of its rivals.

"Customers will be able to configure their airplane for each trip – as a meeting centre, communication post, travelling hotel or employee transport," he said. The aircraft will be able to accommodate up to 60 passengers.

The joint venture, to be called Boeing Business Jets, will deliver its first aircraft at the end of 1998. The first customer will be GE which has ordered two of the aircraft for its own use. All the aircraft will be powered by CFM56 engines produced jointly by GE and Snecma of France.

Boeing says this is the first time it has decided to produce jets specifically for the corporate market, although some of its aircraft have been converted for use by companies and wealthy individuals.

Most of the Boeings used as corporate jets were bought second-hand from airlines. Boeing says 51 of its aircraft are being used by businesses or governments. Among these are 14 Boeing 747s, which can carry more than 400 people.

Boeing and GE's decision to enter the corporate jet market comes in spite of a fall in sales since the early 1980s. In 1981, 500 jets were sold worldwide, according to the Washington-based National Business Aircraft Association. Sales dropped sharply from the mid-1980s, and have averaged between 200 and 250 a year over the past decade, the association says.

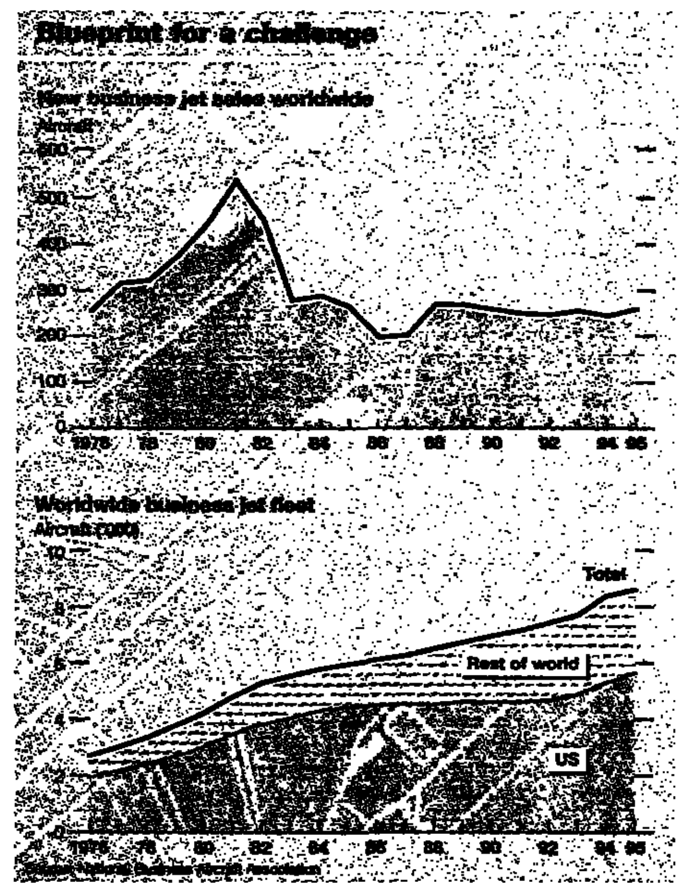
Most operators of business aircraft – both jets and turboprops – are in the US, which accounts for 10,000 of the 16,000 aircraft in service worldwide.

Texas has more business aircraft – 1,000 – than any other state, with California second, on 774. Washington DC boasts 362.

Europe accounts for 12 per cent of business aircraft, while South America has 9 per cent of the worldwide fleet.

The association says business aircraft worldwide have an average age of 10 years.

Sales of new jets account for less than 20 per cent of all business jet sales.



BAM may shun South African broker

By Norma Cohen and Philip Gawith in London

Baring Asset Management, one of the biggest foreign investors in South African shares, is considering suspending share dealing through Nedcor, South Africa's fourth-largest bank, after the bank disavowed a research report critical of one of its largest corporate clients.

Nedcor had written to its broking clients criticising its own research report, which caused BAM's Mr Michael Power, head of African and Middle Eastern equities, to protest at "the obvious violation of Chinese walls". He said his company was considering suspending the purchase of South African shares through Nedcor's brokerage.

The analyst who wrote the critical report, Mr Michael Coulson, is a respected expert on Zimbabwean and Zambian shares and BAM said it was anxious to continue receiving his research.

Mr Power wrote to Nedcor after receiving a letter of June 28 signed on behalf of Mr Richard Laubscher, Nedcor's chief executive, noting the "negative picture of South African Breweries" in a June 7 research report. "We dissociate ourselves from the conclusions reached and sentiments expressed in the report," said the letter. Nedcor has since ceased distributing copies of the report, which had urged investors to sell their shares.

The report said South African Breweries held a monopoly in its home beer market and offered customers a limited range of products. It also said the company would be a "worthy target" if the government decided to break up the monopolies which grew up under apartheid.

The report, which noted that SAB shares are widely held by foreign institutional investors, said: "The clear beer monopoly enjoyed by SAB in South Africa is unnatural and restricts consumer choice. The ANC dominated government has railed against the concentration of economic power in SA but has done little to break up any of the historic business concentrations. SAB would in our view constitute a worthy target."

The South African government is currently drafting competition and antitrust policy.

Nedcor said some opinions expressed in the report "are a misinterpretation of the circumstances that have developed in the South African economy over a great many years".

UK and US institutional investors have said that objective research on South Africa is crucial if they are to participate heavily in that market. The pattern of cross-holdings by South African companies has limited transparency and liquidity and makes valuations difficult, investors claim.

BAM is one of the leading institutional investors in emerging markets, particularly South Africa, and has £26bn of assets under management worldwide.

SmithKline Beecham agrees $90m gene deal

By Daniel Green in London

Heavy investment in gene research by SmithKline Beecham, the UK drugs company, was vindicated yesterday by deals worth at least $90m to sell some of the results to two other drugs companies.

Schering-Plough of the US and Synthélabo of France will pay $55m and $35m respectively over five years for a genetic database built by SmithKline Beecham and Human Genome Sciences, its US gene research partner.

Those payments would be supplemented by royalties on products generated by the information, and by "milestone payments" which fall due as drug development proceeds.

Three years ago, SmithKline paid $125m for its stake in HGS, now standing at about 7 per cent. The price was criticised by some in the industry as excessive. Even today, the HGS collaboration is unlikely to put products on the market before 2005.

SmithKline and HGS said they wanted the new partners because there was so much potentially useful information emerging from their research.

Mr William Haseltine, Human Genome Sciences' chief executive, said: "We and SmithKline Beecham have created more concrete opportunities to develop pioneer drugs than either party alone or together can use."

But he acknowledged it would be years before the information would be turned into products.

The research, genomics, looks at the chemical structure of DNA – a person's genetic blueprint. Each of the 70,000 to 100,000 genes in human DNA triggers the production of a protein.

The information HGS and SmithKline are selling consists of details of the genes and their proteins. Schering-Plough and Synthélabo, together with Takeda of Japan, will use that information to try to develop drugs that interfere with or promote these proteins' activity.

SmithKline and HGS are also changing their relationship. Until now, SmithKline has had first refusal on potential drugs identified by the two. Now, HGS would be able to "designate its own proteins for development" said Mr Haseltine.

HGS shares rose $¾ to $36 in early trading yesterday.

Crédit Lyonnais to securitise FFr40bn of loans

By Andrew Jack in Paris

Crédit Lyonnais, the state-owned French bank, is to announce today details of a securitisation issue to help increase its financial flexibility at a time when it is facing the prospect of substantial losses.

The bank is to launch a securitisation of about FFr40bn ($7.69bn), representing one-third of the loan it made to a company created by the French state as part of its restructuring plan approved last year.

The issue, called Cyber-val 07-96, will be the largest securitisation carried out on the French market and represents an ambitious expansion in the use of the technique by Crédit Lyonnais, which has announced a number of more modest operations over the past two years.

Under the scheme, a proportion of the loans it has made will be held in a special vehicle with a high credit rating, and sold in the form of shares to external investors. The operation will provide the bank with cash to help it manage its balance sheet.

The loans were made to EPFR – a company guaranteed by the French government – which in turn has made a loan to Consortium de Réalisations, an organisation set up to sell more than FFr135bn in poorly performing assets removed from Crédit Lyonnais' balance sheet during its restructuring. At the end of last year, the size of the total loan was FFr124bn.

Bank executives are still discussing with the French government ways in which the structure of the rescue plan can be altered. However, ministers are keen to avoid any change requiring new approvals from European Union competition authorities.

In the meantime, Crédit Lyonnais is using the securitisation operation to help increase its room for manoeuvre at a time when falling interest rates and the below-market rates of interest on its loan to EPFR are likely to drag it into substantial losses for 1996.

Last month, the bank announced a FFr5bn securitisation of loans to pharmacists called Titraphar 06-96, which was until now the largest such issue in France. It has already carried out operations totalling FFr6.1bn in 1994 and FFr4bn in 1995.

Barry Riley

How Italy knocked out Germany in bonds

A rather self-satisfied G7 communiqué at the weekend celebrated, by implication, the recovery of the US dollar which finally breached the 110 yen level yesterday. It has now risen over the past year by nearly 30 per cent against the yen and by 10 per cent against the D-Mark.

Meanwhile the OECD's half-year report has painted a similarly benign broad picture. Its Member states' overall economic growth is to accelerate gently from 2.1 to 2.5 per cent between 1996 and 1997. Inflation, however, will stay close to 2 per cent.

It all seems good enough for the policymakers to be able to sneak away for an early holiday. Yet we can find some cracks in the facade. Unemployment in continental Europe is stuck at around 10.5 per cent, with little relief coming next year, according to the OECD.

The fiscal projections are quite daunting too, with public sector deficits still running at above 4 per cent of GDP on average for Europe next year. European countries' average gross public sector debt will climb to 77 per cent of GDP – notwithstanding the OECD's generous assumption that their deficit reduction measures will actually work.

Still, the past year can be reckoned to be a success story for international co-operation, both between the US and Japan and within Europe – where an ultimate version of harmonisation, monetary union, is already being celebrated by the financial markets.

The shift from confrontation to co-operation has been reflected in the government bond markets by a revival in the appetite for risk. Risky currencies and risky bonds have enjoyed an excellent run as spreads have narrowed.

According to J.P. Morgan, only Italy, Spain and Sweden delivered clearly positive local currency bond returns in the first half of 1996 within Europe, and if you add in the currency effect

> The shift from confrontation to co-operation has been reflected in government bond markets

Italian BTPs outperformed German bunds by 20 per cent during the six months.

US Treasuries and bunds have underperformed, the latter partly because the German government, whatever the Bundesbank thinks, seems ready to absorb some of the financial risks of the weaker EU economies.

The markets' appetite for risk is a natural consequence of a stronger liquidity flow. Japan has been pursuing an aggressively loose monetary policy and Germany has followed some way down the same road. G7 broad money growth year-on-year has accelerated from about 2 per cent early in 1995 to more than 5 per cent.

Equity markets have also, of course, fed voraciously on easy money. The world market has risen by 16 per cent over the past 12 months in dollars, but by 27 per cent in D-Marks and by 49 per cent in yen.

Against the accommodating international monetary background the UK has been free to pursue some ill-disciplined pre-election policies – including a shrug of the shoulders at 10 per cent broad money growth – without suffering any currency weakness. But the Emu-free UK government bond market has missed out on the global quest for risk.

Now the year's second half offers a potentially more testing climate. Short-term interest rates are likely to be raised in the US and Japan before long, and although Germany is much further away from such a step the Bundesbank does appear to have concluded that D-Mark rates need not go any lower.

Tighter money will bring a change of climate. There is scope for a rise in real bond yields, and not just in US Treasuries which have borne the brunt of the correction so far.

Typically, the impact of tightness is not evenly spread but is focused on riskier areas. This could be especially bad news for some of the racier investments such as Latin American Brady bonds. In Europe the picture is more complicated: accelerated economic growth will make Emu more credible because more countries will get close to the Maastricht criteria. This will help the high-yielders.

Equities need not fear the monetary consequences of more rapid growth so much, but Wall Street has been very sensitive to interest rate expectations recently. Investors, it appears, despite their gains, do not feel anything like so smug as the politicians.

Stena goes for rapid solution to profits gloom

The troubled ferry operator is trying to launch its latest weapon in the high-seas battle for passengers

The rain splashing down on the huge new high-speed ferry crouched at its berth in a slate-grey Gothenburg harbour last weekend neatly matched the mood of what has been a gloomy start to the all-important summer season for Sweden's Stena Line.

The world's largest ferry operator was forced to issue a profits warning last month because of the effects of unrelenting competition on the English channel from Eurotunnel, and delays in introducing its much-trumpeted High-speed Sea Service (HSS) vessels on the Irish Sea.

Profits this year are now forecast to be below the SKr201m ($30.2m) pre-tax surplus earned last year – which in turn was less than half the level of profits in 1994. The difficulties are the more irksome to Stena because they come just as the company is entering an offensive phase of new investment and capacity increases after three years of financial consolidation.

But Mr Bo Lerenius, Stena's chief executive, is adamant the company is not about to change course from its strategy of concentrating on the ferry business – despite growing competition from bridges and tunnels and threats such as the European Union's plan to end on-board duty free sales in three years.

Stena operates 35 ferries on 15 routes around Britain and Scandinavia. This year, it has already introduced one HSS and one new conventional ferry. By the end of the year, two smaller HSS vessels are due to be delivered, with a third large HSS due early next year.

"Of course, it is a problem when a number of [adverse] things happen at one time," says Mr Lerenius. "We are talking about a lot of money – and Eurotunnel hit us with a worse attack than we anticipated. But we will continue to stick to our strategy. No way will we change our plans to introduce new tonnage."

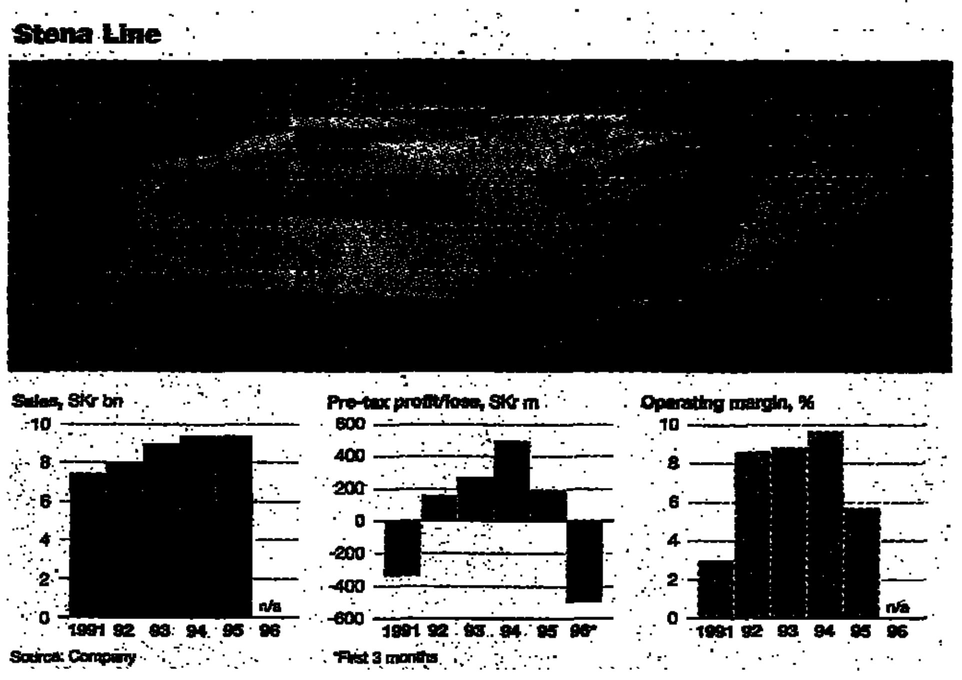
The toughest challenge to Stena at present is on the English Channel. Since Eurotunnel opened a year ago, it has taken more than a 40 per cent share of the market – partly through offering rock-bottom prices which have squeezed out the price advantage the ferry operators hoped would be the chief weapon in their defences on the route.

Eurotunnel delivered another blow just before the current summer high season with another round of price cuts. "From our point of view, it was very dramatic. It means the whole price level is 50 per cent of what it was before," says Mr Lerenius.

At the same time, Stena has been adding vessels, taking its fleet from three to five on the Dover-Calais route, following the end of an earlier co-operation it had with the French operator SNAT.

The combination of lower prices and rising operating costs forced Stena to join Britain's P&O, the biggest ferry operator on the route, in urging the British government to relax rules preventing co-operation between the ferry operators.

Stena Line



Stena is interested in a "pooling" arrangement under which the operators would fix capacity and prices on Dover-Calais business and share revenues.

But Mr Lerenius is not ready to throw in the towel on the channel. It is the world's busiest ferry route and is a fast growing market: overall volumes rose 20 per cent last year. When prices stabilise, Mr Lerenius says Stena can be one of at least two ferry operators he believes can survive long-term on the route.

"When you have put in the effort to win volumes you don't then back off. We have no thought of doing that – or of selling any part of our business," he says.

Stena's second problem this year has been delays in getting its impressive HSS craft into service. The second of these aluminium-built, jet-engine propelled giant catamarans should not still have been in Gothenburg last weekend, according to original schedules. It should have been in service on the Stranraer-Belfast Irish Sea route more than a month ago, to complement the first HSS, which also began late on the Dun Laoghaire-Holyhead run earlier this year.

The process of testing and gaining full operational approval from the maritime authorities for the vessels has taken longer than Stena anticipated. But, the craft are a cornerstone of Stena's strategy which may yet play their part in the battle on the English channel.

Stena is spending SKr3bn on the five HSS craft – three with capacity for 1,500 passengers and 375 cars, and two smaller vessels to carry 900 passengers and 210 cars. They aim to combine the 40-knot speed of much smaller high-speed craft already used by many companies with the capacity of a large ferry. The big high-speed ferries offer key elements which Stena – the first ferry operator to invest in them – believes will give it a significant competitive advantage.

They cut journey times by as much as half, enabling operators to charge premium prices. Prices on Dun Laoghaire-Holyhead are up to 30 per cent higher than for conventional vessels. But they have the capacity to gain big volumes.

Mr Lerenius sees HSS vessels playing a vital role in the future. With duty free set to disappear, and the advent of fixed links like Eurotunnel and the Sweden-Denmark bridge-tunnel, the emphasis for ferry operators is going to move to getting passengers from A to B, rather than on what Mr Lerenius calls "creative travel".

Stena sees the present three-way split in its revenues between ticket sales, on-board sales and freight income shifting significantly in favour of the former and latter. On non-overnight routes (for the time being, at least, HSS craft have no cabins), high-speed, high-capacity vessels will come into their own, the company believes.

This is why Stena is so anxious to get its first two HSS 1500 vessels into service. There was much pride among company officials at the weekend in Gothenburg as they showed hundreds of curious visitors around the gleaming, space-craft-like ship.

But there was also impatience to get the paying public aboard as soon as possible.

Hugh Carnegy

Caterpillar to buy Krupp diesel unit

By Michael Lindemann in Bonn

Krupp, the leading German steel and engineering group, which has undergone considerable restructuring in recent years, yesterday said it would sell its MaK Maschinenbau subsidiary, which specialises in diesel engines, to Caterpillar, the US group.

The two companies have signed a letter of intent and Krupp said yesterday they expected to reach a final agreement in the autumn.

MaK, based in the northern German town of Kiel, has been reshaped in recent years in an effort to focus activities on larger diesel engines for ships. The company also makes smaller engines for electricity generators and had until recently made parts for the Leopard II tank.

Krupp declined to comment on an eventual sale price for MaK, saying that the due diligence process was to start immediately. MaK made unspecified net profits last year on sales of DM541m ($355.1m). Krupp overall made record net profits of DM505m last year on sales of DM23.5bn.

Selling MaK is a further step in a wide-ranging overhaul at Krupp following its merger with rival steelmaker Hoesch in 1993. As part of that process, the Essen-based group said last month it would sell its Orenstein & Koppel escalator activities to Kone, the world's third-largest lift producer. It is still looking for a buyer for O&K's mining and construction equipment businesses.

Krupp said MaK had a sizeable share of the world market for ships diesels but that this was not enough to ensure its future. "We had the choice of either expanding MaK's engine-making activities or finding a buyer which fitted," Krupp said.

A sale to Caterpillar made sense because of the US group had larger diesel engine activities for lorries, ships and construction equipment.

The German group also said Caterpillar wanted to keep the MaK name and to integrate the company into Caterpillar's engine activities. A merged company would create the world's largest maker of diesels for ships.

Verbundnetz Gas sees return to black

By Judy Dempsey in Berlin

Verbundnetz Gas, east Germany's largest gas distribution group, expects to report operating profits this year for the first time since reunification. Mr Klaus-Ewald Holst, chairman, said yesterday VNG would move out of the red by 1997, despite the slowdown in the region's economy.

The optimistic forecasts are linked to a sharp rise in gas sales, and in send-out – the distribution to households and industry of natural gas, town gas and domestic natural gas produced at Salzwedel in the eastern German state of Saxony-Anhalt.

The company reduced its losses last year, from DM26m to DM1m ($656.4m). Sales rose 20 per cent, from DM2.3bn in 1994 to DM2.76bn, and send-out climbed 27 per cent, from 101bn kilowatt hours to 129.7bn KW/h over the same period.

The expectation of profits also appears to be linked to the VNG's heavy investment programme in the five eastern states, as well as the switch by households from brown coal – or lignite – to gas.

VNG was sold in 1992 by the Treuhand privatisation agency to several German gas companies, including Ruhrgas, the biggest shareholder with a 35 per cent stake. Since then it has invested more than DM2bn in modernising existing pipelines and laying new ones. It plans to invest a further DM1.5bn until 2000.

The investment programme was also designed to shift consumption away from brown coal. Until 1990 it was the main source of energy to industry and domestic consumers, with only 6 per cent of the latter linked to gas, compared with 66 per cent to brown coal. Mr Holst said more than 29 per cent of households were now receiving gas. VNG expects gas consumption by industry to rise from 21bn KW/h in 1991 to about 50bn KW/h by 2000.

Caio likely to be head of Olivetti

By Andrew Hill in Milan

Directors of Olivetti, the Italian computer group, could name a replacement for Mr Corrado Passera, the outgoing chief executive, as early as tomorrow following Banco Ambrosiano Veneto's announcement yesterday that Mr Passera will be the bank's new chief executive.

The front-runner to replace Mr Passera is Mr Francesco Caio, 38, chief executive of Omnitel Pronto Italia, the mobile phone company in which Olivetti has a 41 per cent stake.

Mr Caio is a former management consultant with McKinsey and former assistant to Mr Carlo De Benedetti, the group chairman and joint chief executive, whose family controls the company through Cir, a quoted holding company.

If he takes the job, Mr Caio will have the responsibility of completing Olivetti's transformation into a broad-based information technology and telecoms company, and ensuring that the group meets its 1996 target of ending five consecutive years of net losses.

Ambroveneto, one of Italy's largest quoted banks, said it would finalise the appointment of Mr Passera, 41, to the vacant post of chief executive, at a board meeting towards the end of this month.

Mr De Benedetti announced unexpectedly last week that Mr Passera, one of his closest collaborators over the last 11 years, had received an alternative job offer. Mr De Benedetti indicated that the board would name a replacement before the end of the month. Olivetti would not comment yesterday on the potential successors or the timing of the meeting.

The news of Mr Passera's departure has hit the company's share price over the last few days, as he was one of the architects of Olivetti's recovery plan, and head of the newly formed personal computers subsidiary. Yesterday Olivetti's shares recovered slightly to close up L10.5 at L632.1.

Mr Bernhard Auer, a former senior executive with Digital Equipment of the US who joined Olivetti last year, is likely to take charge of the PC business, with a mandate to proceed with the rationalisation plan.

The PC company has already announced that it broke even in February and March, and is expected to indicate second-quarter figures before the end of this month.

Rabobank builds private equity investment side

By Richard Gourlay in London

Rabobank, one of the Netherlands' largest banks, has bought Gilde Holdings, a prominent continental European venture capital company, for an undisclosed sum in a move that will substantially increase its private equity investment activities.

The bank has committed to putting up to Fl 500m ($292m) into a new fund to be managed by the Gilde team for investment in transactions that emerge from its branch network.

At the moment the bank has only Fl 80m invested in the asset class.

Rabobank is also underwriting up to Fl 1bn of capital for two other funds, Fl 800m invested in management buy-outs and Fl 200m in information technology companies.

Earlier this month Rabobank announced plans to take control of Robeco, a leading Dutch fund manager, as part of a strategy to build its international life assurance and fund management businesses.

Robeco has four listed investment funds: Robeco and Rolinco, which invest in shares; Rorento which focuses on fixed income instruments; and Rodamco, which deals in property.

Mr Willam van't Hooft, Rabobank corporate finance director, said the purchase of Gilde followed "an important policy change" within Rabobank.

The bank had decided to increase its management buy-out activities through an independent management company.

Gilde would also take Rabobank into private equity investment outside the Netherlands.

The management team of Gilde will operate independently of Rabobank and will have a right to so-called carried interest in the funds once certain performance targets are met.

In addition to the purchase of the management company, Rabobank is paying Fl 200m to buy the assets of Gilde's four existing funds from their investors.

Mr Leendert van Driel, partner at Gilde Partners, said Gilde Partners would be seeking other investors for the funds.

Since it was founded in 1982, Gilde Partners has managed funds with a value of Fl 271m and has invested in over 100 companies.

Mr Hooft said Gilde could be floated in five years if it produced the necessary performance record.

NEWS DIGEST

Rémy postpones release of results

Rémy Cointreau, the French drinks group which is suffering from weak cognac sales and high distribution costs, has postponed the publication of its year-end results from yesterday until late this month. The group, 53 per cent-owned by the Heriard-Dubreuil family, gave no reason, but indicated that technical problems had delayed the accounts.

The company's shares closed yesterday at FFr144, down FFr7 in the past two days, and heavily down from a peak of FFr265 in January 1994. It warned in late April that net profits for the year ended March would be slightly lower than the FFr276m ($53.6m) of a year earlier. But they would include FFr212m in extraordinary gains from asset sales. Analysts expected it to barely break even at the pre-exceptional items level in the latest year. The company has said it would also maintain the dividend.

The strong French franc has hit Rémy's overseas operations. Cognac sales, particularly in east Asia, where Rémy has tried to push through price increases to offset the franc factor, have fallen. Rising sales of its champagnes, such as Krug and Heidsieck, have only partly offset the decline. Analysts thought the results this year would show the company had suffered a further setback in a foreign market or, less likely, that it planned a financial or corporate restructuring.

The prime target for change is its extensive global distribution. Analysts said the group had too small a product portfolio to justify the cost. Rémy was trying to broaden it by taking on distribution for other companies. It already handles Famous Grouse Scotch whisky from Highland Distilleries which has a cross shareholding in it. It recently took on Grand Metropolitan's brands in Singapore and Malaysia.

Roderick Oram, Consumer Industries Editor

Tribune Group in $1bn TV buy

Tribune Group, owner of the Chicago Tribune, is to extend the reach of its television station operations to more than 33 per cent of US homes with the $1bn purchase of Renaissance Communications. The move will add six stations to the 10 already owned and make Tribune the biggest concern in the field, ahead of Westinghouse Electric. The acquisition is part of a strategy to reduce dependence on print media.

Coming quickly after Westinghouse's $3.9bn acquisition of Infinity group last month, it marks a further decisive stage in the rapid consolidation of US media and communications spurred by telecoms deregulation. Under new rules, broadcasting groups may now own systems able to reach 35 per cent of US homes, up from 25 per cent. Tribune's coverage will now span 11 of the main US TV markets and give it greater leverage in negotiations for programming in competition with competitors such as the cable companies and Westinghouse.

Christopher Parkes, Los Angeles

Pay-per-view Italian soccer

Italian soccer fans will get their first taste of pay-per-view television this autumn, when Telepiù, the Italian pay-TV company founded by Mr Silvio Berlusconi, will start special live coverage of the Italian league for subscribers. Telepiù, in which Mr Berlusconi's Fininvest group still has a 10 per cent stake, said yesterday it also planned to launch a "video-on-demand" service.

The pay-per-view TV service will be available for individual games or in the form of a "season ticket" to all games of single clubs. Coverage will start in September with the top Serie A games and extend to Serie B from January, transmitted by Telepiù digital satellite television subsidiary. The season ticket for Serie A will cost L500,000 ($326), plus L1.7m for the decoder, satellite dish and smart card for access to the programmes.

Mediaset, the Berlusconi media company set for stock market flotation later this month, has an option to buy Fininvest's 10 per cent stake in Telepiù. The Rupert family of South Africa, and Kirch, the German media group, own about 33 per cent of Telepiù each, and are also the largest minority shareholders in Mediaset.

Andrew Hill, Milan

St George out of Metway deal

St George Bank, the Australian regional bank, has effectively abandoned its efforts to acquire Queensland's Metway Bank for A$820m (US$644.8m). The bid, which was to have been implemented by a scheme of arrangement, failed to win sufficient backing from Metway shareholders last week. This appeared to clear the way for the Queensland state government's rival plan to create a regional "superbank" by merging Metway with two other government-owned institutions.

Nikki Tait, Sydney

Italian broking link-up cancelled

An Italian joint venture between broking house Akros Finanziaria and financial service group Sopaf, which owns brokers Pasfin, has been called off. Mr Guiseppe Daveri, Sopaf director, said the plan to create a 50–50 venture to be called Akros Investment, had been cancelled. Akros shareholders this week opted for a capital increase rather than the venture.

Reuter, Milan

THE SHAKE-UP AT CREDIT SUISSE

■ Global competition

George Graham, Banking Correspondent

Making sure of one of the few places at the top table

The approach of the millennium has injected an almost apocalyptic spirit into the world's leading universal banks.

A group of 15 or 20 contenders are jostling for position, convinced that, in a matter of years, there will be room at the top table for no more than four or five dominant players which will command the lion's share of the profitable business while the second division picks up the scraps.

Mr Rainer Gut, who has imprinted his mark indelibly on the Credit Suisse group over the past 20 years, has already made one attempt this year to ensure that Switzerland had a representative in this "global bulge bracket" of top wholesale banks.

His overture in April to Union Bank of Switzerland would have created one of the world's largest financial groups, with a commanding position in asset management and a rare strength in investment banking on both sides of the Atlantic.

A CS-UBS merger would, Mr Gut still believes, have represented a "quantum leap". But after a vigorous rejection from UBS, Mr Gut looked battered.

Now, he has looked inwards in search of ways of making CS into an international powerhouse. The comprehensive overhaul will organise the group by line of business, sweeping away the mixture of history and geography that has determined CS's structure.

Swiss analysts welcomed the new structure and the promise of SFr700m ($560m) a year of cost savings in years to come.

"If you ever want to run this empire efficiently, you have to run it according to sectors and not according to geographical location," said Mr Hans Kaufmann, a banking analyst at Bank Julius Baer in Zurich. The new CS organisational chart bears a marked resemblance to the structure announced earlier this year, with considerably less fanfare, by Swiss Bank Corporation.

Like SBC, CS has grouped into four divisions: wholesale and investment banking, asset management, private banking, and domestic retail banking. "It's the standard McKinsey model," said Mr Kaufmann.

CS has even brought in a McKinsey man to run the new organisation: Mr Lukas Mühlemann, who ran the management consultancy's Swiss business for 17 years before he left to head Swiss Re, the giant reinsurer, and will now become group chief executive.

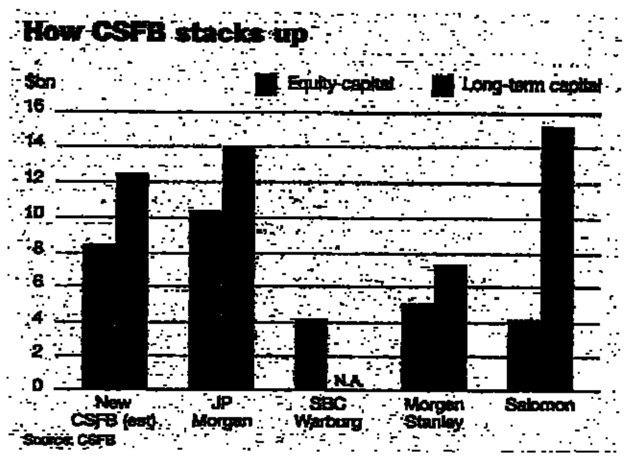
The restructuring offers CS a number of immediate gains. First, it creates an opportunity to tackle head-on overcapacity in the Swiss retail banking market, with the elimination of 3,500 jobs and 112 duplicate branches in half the time. Placing private banking and asset management in stand-alone divisions also creates more visibility for these low volatility profits, which command greater respect from investors.

The new structure will also allow CS to eliminate unnecessary competition between the group's various units. Mr Gut had already begun to tackle these duplications, with projects under way in areas such as equity research – the group boasted six different analysts following Nestlé shares – and settlement back offices. The process can now be carried much further.

Finally, CS has promised investors that the SFr1bn restructuring charge it will take this year will be covered by profits on its non-core investments, principally its 47 per cent stake in the Elektrowatt utility. London analysts have long urged CS to get rid of this stake.

What remains to be seen, however, is whether the combination of Credit Suisse's wholesale banking business with CS First Boston and CS Financial products – a marriage of investment and commercial banking Mr Gut had long resisted – will create a global bulge bracket bank.

Marrying CSFB's entrepreneurial culture and high pay packets with the more stolid mores of Credit Suisse may be difficult. But the new bank will now have the size to compete with the biggest and the right sort of structure to offer corporate clients a full range of financial services under one roof, following the example of European rivals such as BZW and Deutsche Morgan Grenfell.



The path of change over two decades

1856
Credit Suisse founded.
1977
Huge losses resulting from a scandal at its Chiasso branch in southern Switzerland shake the whole group.
1978
Joint eurobond venture between Credit Suisse and White Weld metamorphoses into investment banking powerhouse Credit Suisse First Boston in partnership with the US's First Boston.
1983
Mr Rainer Gut becomes chairman.
1989
CS Holding created as umbrella parent for group, with Credit Suisse domestic and international bank as its main subsidiary, but is immediately obliged to bail out its First Boston partner after heavy credit losses.
1993
Credit Suisse takes over Swiss Volksbank, Switzerland's fourth largest bank, and quickly falls foul of a slump in the Swiss housing market.
1994
Swiss Re buys a 20 per cent stake in CS Financial Products, the CS group's derivatives unit, while CS seals the alliance by taking a reciprocal 9 per cent stake in the reinsurer.
1995
Credit Suisse forms a new alliance with Winterthur Insurance. Its attempt to buy Austria's Creditanstalt is rejected.
1996, April
Rival Union Bank of Switzerland rebuffs Mr Gut's suggestion of a merger that would have created one of the world's largest banking groups.
1996, July
CS launches radical overhaul of group structure.

George Graham

■ The people

Ralph Atkins and Nicholas Denton

Blue-eyed boy of the investors

Mr Lukas Mühlemann created a whirlwind within the sometimes sleepy reinsurance world with his appointment as chief executive of Swiss Re in September 1994. Mr Mühlemann, who is succeeded by Walter Kielholz, has attracted a strong stock market following that CS might well be seeking to emulate.

In the same month as Mr Mühlemann's appointment, Swiss Re raised SFr6.5bn from the sale of its direct insurance companies, leaving the group to concentrate on its core business of protecting conventional insurers against big losses.

Mr Mühlemann, who joined from McKinsey & Co, the management consultants, set a target return on equity of 15 per cent and, from the start, increased Swiss Re's focus on shareholder interests. "Lukas Mühlemann is the blue-eyed boy who, in the eyes of American investors, can do no wrong," says Mr Angus Runciman, insurance analyst at Barclays de Zoete Wedd.

Aged 46, cigar-puffing Mr Mühlemann is a model management consultant, fizzing with ideas and nervous energy but also creating some upset within the group with the pace of change he decided was necessary.

Indeed, his is precisely the character Mr Rainer Gut thought needed to push through the restructuring of the CS group.

If the plan succeeds, Mr Mühlemann is well placed to follow Mr Gut as chairman of CS. That, as much as the official "differing views", is the reason why Mr Josef Ackermann, president of Credit Suisse and long seen as heir apparent to Mr Gut, resigned.

Mr Ackermann had been offered the post of chief executive of CSPB, the new integrated division embracing both commercial lending and investment banking.

But colleagues said he felt passed over in favour of Mr Mühlemann. The post goes instead to Mr Hans-Ulrich Doerig, a member of the executive board of Credit Suisse.

Another executive from the commercial banking division, Mr Oswald Grübel, takes the powerful post of head of global trading of the new CSFB.

The appointments do not, however, represent a takeover of the investment bank by the commercial bank. Both Mr Doerig and Mr Grübel worked at CSFB in London in its heyday as the leading euromarkets house in the 1980s. Moreover, the key business heads will report primarily into Mr Allen Wheat, who bolsters his position as chief operating officer of CSFB.

It is understood that the executive committee of CSFB will consist of five executives from the investment banking and derivatives side of the business – Mr Wheat, Mr Chris Goekjian, Mr Chuck Ward, Mr Richard Thornburgh and Mr Chris Roberts – and three from Credit Suisse – Mr Doerig, Mr Grübel and Mr Rudolf Hug.

But the key people will be the executives one or two levels down – those who actually bring in business. There is a significant risk that the restructuring will provoke some of them to leave. Mr David Mulford, head of Europe for CSFB, says: "People are not going to rush out the door when they have this opportunity."

But there are two particular dangers. First, the overheated jobs market in investment banking, which has already contributed to a haemorrhaging of staff from CSFB's US bonds division. "To go through a restructuring right now could be detrimental," says an executive. "You do risk losing your best people, which is very dangerous in investment banking."

Second, the harmonisation of investment banking and commercial banking pay structures – which Mr Gut said would begin next year – will be especially delicate. Credit Suisse executives balk at the bonuses paid to CSFB staff, which were last year double the investment bank's pre-tax profits. Mr Wheat alone earned an estimated $9m.

Gut choice: Lukas Mühlemann, a model management consultant fizzing with ideas

■ The structure

William Hall, Zurich

Four core businesses in refocused international financial institution

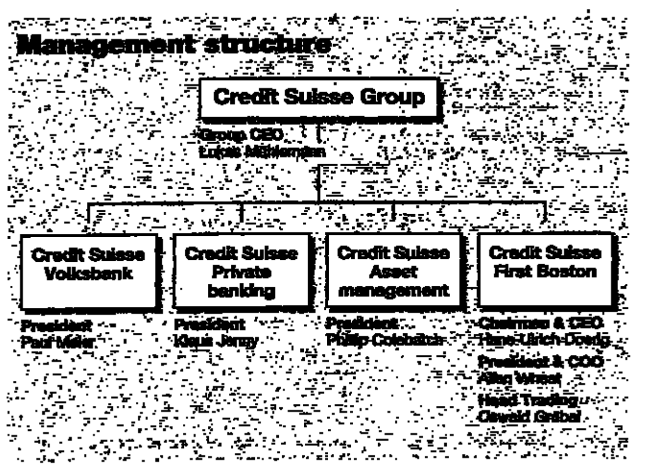
Credit Suisse, the oldest and most international of the Swiss banks, has a deserved reputation as one of the pioneers of modern Swiss banking. It played a decisive role in financing the industrialisation of Switzerland, including the construction of the Gotthard railway tunnel, and is the only European financial services group with a significant investment banking presence in the US.

However, its recent haphazard growth and acquisition of stand-alone businesses with decentralised managements has resulted in overlapping products and a lack of customer focus.

The purpose of the current restructuring is to change the group from a Swiss bank with international activities into an international financial institution with headquarters and certain core businesses in Switzerland.

Credit Suisse Group, the new holding company, will be refocused into four core businesses, each operating under its own brand name and legally grouped under two separate Swiss banks: Credit Suisse (using the former Swiss Volksbank as a corporate vehicle) and a big new Swiss bank, Credit Suisse First Boston (within the legal framework of the old Credit Suisse).

Functionally, the new Credit Suisse will have two autonomous divisions: Credit Suisse Volksbank (Swiss domestic banking) and worldwide private banking under its existing brand name Credit Suisse Private Banking.



The former will be run by Mr Paul Meier, currently president of Swiss Volksbank, and the latter will be headed by Mr Klaus Jenny, a member of the executive board of Credit Suisse. Bank Hofmann, Clariden Bank and the reorganised Bank Leu will continue as subsidiaries of the holding company but will be managed by the private banking business unit.

Credit Suisse Volksbank will combine the domestic branch networks of Credit Suisse, Swiss Volksbank and Bank Leu.

At present, the group operates a total of 376 branches in Switzerland and there are overlapping facilities in 224 locations. In all these locations, the branches will be amalgamated – resulting in a reduction of 112 branches.

Between 15 and 20 branches will be closed, so the Swiss branch network will shrink by 40 per cent to less than 250 branches after the reorganisation is completed. However, Neue Aargauer Bank, which is the biggest bank in the canton of Aargau, will continue to operate as a full service regional banking subsidiary of Credit Suisse Volksbank.

By far the biggest part of the new Credit Suisse Group will be the enlarged Credit Suisse First Boston, which will be headed by Mr Hans-Ulrig Doerig. This will include two autonomous divisions, Credit Suisse Asset Management, and the corporate and investment banking business, Credit Suisse First Boston.

In essence, the existing international investment banking business of CS First Boston is being merged with the existing international corporate and Swiss investment banking business of Credit Suisse. Credit Suisse Financial Products, a leading player in derivatives and risk management products, will also form part of this unit.

The top management of the new Credit Suisse Group will be strengthened by a number of new appointments to central support functions.

Mr Phillip Colebatch, who will head Credit Suisse Asset Management, will act as interim group chief financial officer until a replacement is found. A new chief risk officer will also be appointed to ensure that the group's strategy towards risk fits in with its corporate objectives. The new management structure will take effect from January 1 next year.

The realignment of the new business units will take place over the next couple of years and by the end of 1998, the new organisation should be in place – with each business unit managing its own infrastructure, accounting system and branch network.

■ Swiss retail banking

George Graham

A crowded and unprofitable market

Switzerland has lost a quarter of its banks over the past five years through acquisition and closure, but Swiss bankers are in no doubt that their market remains crowded and unprofitable.

With one branch for every 938 people, Switzerland is one of the most densely banked countries in Europe. With generally low interest rate margins and a cost base that averages more than 75 per cent of net banking income, the Swiss banks clearly face a long-term profitability problem.

"Restructuring in Switzerland is as sure as next Christmas Day," said one senior Swiss banker.

Credit Suisse has already played a part in the restructuring of the Swiss banking industry, notably with the 1993 acquisition of Swiss Volksbank, the country's fourth largest bank, and the subsequent takeover of Neue Arganer, a regional bank.

Together, these acquisitions have made it the market leader with a market share of around 30 per cent.

However, despite the group's valiant claims that the integration of Volksbank had been successfully completed by the end of last year, it was clear that much more remained to be done.

Mr Rainer Gut, CS chairman, is under no illusions that mergers are a panacea; indeed, he observes that in an average merger, 30 per cent of the customers move their accounts.

But he also believes firmly that consolidation is needed, and leapt at what he perceived to be an opportunity earlier this year to strike boldly at Switzerland's banking overcapacity by merging with rival Union Bank of Switzerland.

The resulting group would have controlled almost half of the domestic banking market, but the scale of the likely job cuts was frightening enough. It certainly provided useful ammunition to bolster UBS's rejection of the approach.

Yesterday, CS admitted that its basic retail banking operations were losing money, bailed out by profits from asset management services to its private banking clients.

But the retail network will bear the brunt of the group's restructuring, with an estimated 3,500 job cuts in Switzerland out of 5,000 worldwide.

Mr Gut said 112 branches would close in locations where Credit Suisse, Volksbank and Bank Leu units operate in close proximity. Another 15 to 20 will be shut in unprofitable areas.

Compared with the slowly phased elimination of 2,000 jobs at Volksbank over the last three and a half years, that represents a significant ratcheting up of the pace of restructuring.

COMPANIES AND FINANCE: THE AMERICAS / ASIA-PACIFIC

Quaker falls foul of fad for 'good-for-you' drinks

Last November Mr William Smithburg, chairman and chief executive of Quaker Oats, appeared before the company's annual meeting and predicted that its disastrous acquisition of Snapple Beverage, the trendy soft drinks maker, would at last come good.

"Wait and watch for 1996, and see what we can do," he told Quaker's long-suffering shareholders.

So they waited, and they watched: but by now, they must be wishing they had not. For last week, Quaker delivered yet another in a long series of warnings that Snapple was failing to live up to expectations, and would again turn in a loss for the year.

Without doubt, Quaker's acquisition of Snapple for $1.7bn at the end of 1994 ranks as one of the worst fiascos in recent US corporate history. So what went wrong?

Hindsight is not strictly necessary to explain why Quaker's decision to buy Snapple was ill-founded. Even as Quaker announced the deal, commentators warned that it was paying far too much for a business that had peaked.

Snapple had shot to prominence in the US soft drinks market through the phenomenal success of its "new age" iced tea and juice drinks with names like Mango Iced Tea and Amazin' Grape Juice. The drinks were supported by quirky advertising and a dubious claim on the bottle cap: "Made from the best stuff on earth."

A decade earlier Quaker, best known for its breakfast cereals, had struck gold when it diversified into soft drinks through the acquisition of Stokely-Van Camp, US maker of Gatorade, a sports drink. Thanks to growing consumer enthusiasm for "healthy" drinks and investment by Quaker, sales of Gatorade had soared.

Already market leader in the sports drink segment, Quaker saw the Snapple acquisition as giving it market leadership in iced tea and juice drinks, so making it number one in the three fastest-growing soft drink segments in the US. Further, it thought it could boost sales of both brands by combining their distribution channels.

But the danger was that "good-for-you" drinks could just be a fad. And even if they were not, Snapple no longer had the market to itself. Coca-Cola and PepsiCo, acutely aware of the danger to their market share, were already launching their own versions of iced teas and juice drinks.

In fact, on the same day that Quaker announced the Snapple acquisition, Snapple itself announced that its net profits had tumbled from $26.9m to $7.1m in the quarter to September.

"The business definitely had peaked," says Mr William Leach, an analyst at Donaldson Lufkin & Jenrette. "The category was maturing, and Coke and Pepsi were ramping up."

Soon after the acquisition had been completed, Quaker discovered another problem. Gatorade sold mainly through supermarkets and convenience stores, while Snapple sold mainly through corner stores and delicatessens. The two had separate distribution systems.

Quaker wanted Gatorade's distributors to take over the distribution of Snapple to supermarkets and Snapple's distributors to take over the distribution of Gatorade to the delis. But Snapple's distributors, who had long-term contracts, refused to go along with the plan because it would mean swapping high-margin Snapple sales for lower-margin Gatorade sales.

Eventually, Quaker was forced to back off. But analysts say that while it was trying to sort out the mess, it virtually abandoned marketing. Then at last, in April this year, it launched a new advertising campaign that tried to make a virtue of Snapple's position as number three in the US soft drinks market, behind Coke and Pepsi.

"It was a disaster," says Mr Tom Pirko, managing director of Bevmark, a US food and drink consultancy. "It was confusing. It said we are mediocre. It was way off any reasonable strategy for what trademark equity is about."

Now, the campaign has been canned and Quaker is poised to launch a new marketing blitz. Next week it plans to start giving away millions of bottles of Snapple on the streets, in the parks and on beaches of the US, hoping to build up demand in the remaining summer months.

Quaker hopes the costly exercise will help build up Snapple's sales beyond the east and west coast markets, where 70 per cent of its sales are today. But analysts say it faces an uphill battle in trying to counter Coke and Pepsi.

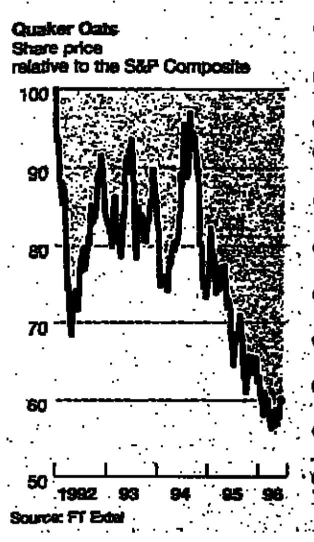
So will the Snapple acquisition ever come good for Quaker? "I guess it means what you mean by come good," says Mr John O'Neil, an analyst at Oppenheimer.

"Is it likely to attain the goals Quaker had when it bought the business? No. Can they make it a profitable company? Yes, but it will wind up being a smaller one, and it will probably never be able to justify what Quaker paid for it."

Richard Tomkins

How Snapple turned sour for Quaker Oats

Quaker Oats
Share price relative to the S&P Composite



Source: FT Extel

- Nov 2 1994 Quaker Oats announces the acquisition of Snapple Beverage for $1.7bn in cash. Moments later Snapple announces a slump in third quarter net profits from $26.9m to $7.1m. Quaker's share price falls 10%.
- Jan 17 1995 Quaker integrates the marketing of its Snapple and Gatorade soft drinks under Donald Uzzi, its new chief marketing officer. The combination "presents tremendous profit growth opportunities, Uzzi says.
- Jan 17 1995 Quaker reports a 20% fall in net profits to $34.4m for the quarter to December.
- Mar 8 1995 Quaker's chief financial officer, unexpectedly resigns, unsettling Wall Street. The company says it will take a reorganisation charge of $75m to $80m in the quarter to June.
- Jun 20 1995 Quaker warns analysts that Snapple is proving more difficult to absorb than expected. Sales have fallen 15% below last year's levels, it says.
- Jul 12 1995 Quaker says net income for the quarter to June will fall $40m to $50m below expectations, citing a number of problems including poor Snapple sales.
- Oct 23 1995 Board director Philip Marineau, president and chief operating officer, unexpectedly quits. Wall Street says he is walking the plank for the Snapple fiasco.
- Nov 8 1995 At the company's annual meeting, Quaker chairman and chief executive William Smithburg defends the Snapple acquisition, saying he expects it to notch up double-digit sales growth in the coming year.
- Dec 21 1995 Quaker warns that it will plunge into the red in the quarter to December because of Snapple's dismal sales and heavy losses.
- Apr 1 1996 Quaker launches an ad campaign boasting of Snapple's position as a distant third in the US drinks market, trailing Coke and Pepsi. Consumers are baffled; sales falter.
- Jun 26 1996 Quaker warns that second half profits will be hit by a "sales shortfall" at Snapple and by the cost of launching a new ad campaign for the brand next month. Snapple will end the year "significantly below break-even," it adds.

Morgan Stanley benefits from rise in market share

By Maggie Urry in New York

The continuing strength of financial markets helped Morgan Stanley, the investment bank, to nearly double earnings per share in its second quarter, which ran to May 31. Fully diluted earnings per share for the quarter were $1.75, up from 91 cents in the same period of 1995, and from $1.57 in the first quarter.

In early trading trading the shares jumped $1½ to $50⅝. Book value per share was $29.73 at the end of the second quarter.

Mr Philip Duff, chief financial officer, said "the operating environment has been about as ideal as one could imagine" although the rise in market interest rates in the second quarter had dampened some areas of activity such as debt underwriting and fixed interest trading.

However, he also attributed the profits improvement to a rise in the firm's market share, which he said was a result of a move in 1994 to expand the business despite a tough trading background.

"It looked like a gamble at the time. It is definitely paying off," he said.

Looking forward, he said that the environment for equity issues was getting softer but there was still a significant pipeline of deals, although not as large as some of the multi-billion dollar offerings Morgan Stanley had managed in the second quarter.

Group revenues, net of interest, were $1.53bn, up from $1.01bn in the comparable quarter last year and from $1.45bn in the first quarter. The investment banking division had its best ever quarter with revenues of $542m, beating the quarter to end November 1995 when its revenues were $503m. In the second quarter last year they stood at $273m. The rise reflected strength in mergers and acquisitions and underwriting.

But trading revenues fell from the record $704m in the first quarter to $565m in the second, although still ahead of the $438m in the second quarter last year. Equity trading was ahead, the bank said, but fixed income was hit by lower trading volumes.

Asset management revenues jumped from $88m in the comparable quarter to $143m, largely the result of the acquisition of Miller Anderson & Sherrerd in January.

News executive chosen to run John Fairfax

By Nikki Tait in Sydney

John Fairfax, Australia's leading newspaper publisher, in which Mr Conrad Black, the Canadian media tycoon, holds the largest single stake, yesterday announced that it was appointing Mr Robert Muscat as its new chief executive.

Mr Muscat, 48, is currently the chief operating officer at News Limited, the Australian arm of News Corporation, the media and entertainment group headed by Mr Rupert Murdoch. He replaces Mr Bob Mansfield, who quit earlier this year after an eventful 4½ months in the job – but then stayed on to ensure some continuity.

Fairfax said last night that Mr Muscat would take over on August 1. He first joined News in 1968, and became production manager of the Sydney newspaper operations in his late twenties. He was subsequently promoted to become group general manager of the newspapers unit in 1987.

Mr Muscat took on his current position at News last year, when Mr Lachlan Murdoch, Mr Rupert Murdoch's son, became deputy chief executive.

This effectively ranked Mr Muscat as the third most senior executive at News Limited, with Mr Ken Cowley acting as chairman and chief executive.

Rumours of the Muscat appointment first circulated after a Fairfax board meeting last Wednesday. At that stage, Mr Muscat was said to be on holiday, and the potential choice was not confirmed.

But it was quickly suggested that – if the rumours were correct – choice of a senior News executive to run Fairfax could have some bearing on the relationship between Mr Black and Mr Murdoch, both of whom are shareholders in the group, and on the unending speculation about Fairfax's future.

At present, Mr Black's stake in the publishing group is pegged at 25 per cent by Australia's rules on foreign ownership of media assets. Mr Murdoch's interest is smaller, below the 5 per cent disclosure level.

Another 17 per cent is held by Mr Kerry Packer, the Australian businessman who owns Australia's leading TV network and counts as Mr Murdoch's main domestic rival. He is also unable to raise his stake, because of cross-media ownership rules.

A new conservative federal government has promised to review media ownership constraints, and while its inquiry has yet to be set up, most observers assume that the review will eventually lead to some sorting-out of Fairfax's ownership. As a result, relations between the three businessmen and their key executives are closely watched.

Yesterday, in a statement, Mr Muscat said that leading a company such as Fairfax "with a great tradition and even greater potential" was "a career opportunity too good to miss". Fairfax shares rose five cents to A$2.74.

Aztech Systems in the red

By James Kynge in Kuala Lumpur

The share price of Aztech Systems, Singapore's second largest local electronics company, tumbled yesterday after the company announced a half-year operating loss.

The computer accessories company said it posted an operating loss of S$17.5m (US$12.4m) in the six months to June 30, mainly due to falling prices of CD-ROMs and disk drives for CD-ROMs. Aztech also wrote off S$15m for an investment in US-based Reveal Computer Products in the first half.

Analysts said they were "shocked" at the extent of Aztech's operating losses, mainly because the company had given no warning of the loss. Aztech's share price fell by 18 per cent to 0.56 Singapore cents – a key factor in the wider market's 18 point retreat to 2,273 points. The company's problems raised concerns that other companies in Singapore's electronics sector may also post worse than expected results. The sector accounts for more than half the island's manufacturing output and manufacturing contributed 28 per cent to GDP last year.

"I think there could be some more disappointments along the way," said Mr David Toh, investment analyst at ING Barings in Singapore.

Analysts said that although Aztech's main business – the manufacture of "sound cards" which allow computer users to communicate by fax or modem – was profitable, it was hit by the declining operating margins which are affecting the wider economy.

Economists said margins were under attack from the rising cost of renting property and land, and by wages which are predicted to grow this year by about 6 to 7 per cent, while economic growth is slowing.

Prices for electricity determined for the purposes of the electricity pooling and settlement arrangements in England and Wales.

1/2 hour period ending	Provisional Prices for trading on 03.07.96: Pool purchase price £/MWh	Final Prices for Trading on 05.06.96: Pool purchase price £/MWh	Pool selling price £/MWh
0030	12.22	12.31	13.94
0100	11.38	12.02	13.65
0130	11.38	12.02	13.65
0200	11.38	12.02	13.65
0230	11.38	12.02	13.65
0300	11.38	12.02	13.65
0330	11.38	12.02	13.65
0400	11.38	12.02	13.65
0430	11.38	12.02	13.65
0500	11.38	11.92	13.55
0530	8.95	8.94	8.94
0600	8.95	14.41	16.04
0630	11.90	8.00	9.00
0700	12.14	16.53	18.18
0730	16.76	17.26	18.95
0800	17.58	18.37	20.42
0830	21.10	30.03	32.54
0900	23.91	42.27	45.34
0930	28.80	43.90	47.32
1000	34.10	44.54	48.09
1030	35.79	44.61	48.18
1100	39.22	62.08	65.85
1130	40.11	64.10	68.35
1200	51.16	53.71	58.91
1230	48.32	64.86	69.10
1300	31.66	62.11	65.76
1330	28.12	58.82	61.77
1400	28.16	40.79	43.42
1430	24.87	40.00	42.43
1500	22.62	39.65	41.99
1530	23.06	35.04	37.44
1600	24.82	36.49	39.26
1630	33.25	48.63	51.61
1700	42.94	56.46	58.93
1730	31.78	54.80	57.62
1800	28.27	44.45	46.79
1830	25.73	23.86	25.66
1900	17.31	17.39	19.05
1930	16.83	17.03	18.66
2000	16.73	17.02	18.64
2030	16.42	17.02	18.64
2100	16.42	16.77	18.40
2130	16.42	17.02	18.64
2200	21.15	19.97	21.60
2230	21.15	19.97	21.60
2300	21.15	19.97	21.60
2330	16.22	17.02	18.64
2400	16.22	16.53	18.16

Prices are determined for every half-hour in each twenty-four hour period. Prices are in pounds per megawatt-hour, rounded to two decimal places. To convert prices to pence per kilowatt-hour the decimal point should be moved one place to the left, eg £10/MWh becomes 1.000p/kWh. Provision for the determination of pool prices is made in the Pooling and Settlement Agreements which govern the operations of the electricity pool in England and Wales. The Pool Purchase Price is the basis of the majority of payments made to generators in respect of electricity traded through the pool. The calculation of pool prices is a highly complex process the product of which is subject to revision or correction until final pool prices are determined. Accordingly, due to the possibility of their revision and/or correction, no reliance should be placed upon provisional pool prices for any day being the same as final pool prices for that day. Final pool prices are also capable of revision. Pool Selling Price is the price paid by purchasers of electricity under the pool trading arrangements. Further information on pool prices is provided on behalf of the Pool by Energy Settlements and Information Services Limited. © Energy Settlements and Information Services Limited

TANJONG
PUBLIC LIMITED COMPANY
(Incorporated in England No. 210874)

NOTICE OF SIXTY-NINTH ANNUAL GENERAL MEETING

NOTICE IS HEREBY GIVEN that the Sixty-Ninth Annual General Meeting of TANJONG PUBLIC LIMITED COMPANY will be held at 10.30 a.m. on Wednesday, 24 July 1996 at the Mahkota Ballroom III – Ballroom Floor, Hotel Istana, 73 Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia for the following purposes:

(1) To receive and consider the audited accounts of the Company and of the Group for the year ended 31 January 1996 and the Reports of the Directors and Auditors thereon.
(2) To declare a final gross dividend of 12.8 sen per share of 7.5 pence each less Malaysian Income Tax at 30% in respect of the year ended 31 January 1996.
(3) To re-elect Mr Augustus Ralph Marshall, a Director who retires by rotation in accordance with Articles 76 and 77 of the Company's Articles of Association, as Director of the Company pursuant to Article 74 of the Articles of Association.
(4) To re-appoint Messrs Price Waterhouse as Auditors of the Company and to authorise the Directors to fix their remuneration.
(5) To transact any other business of which due notice shall have been given in accordance with the Companies Act, 1985.

BY ORDER OF THE BOARD

Siuagamy Ramasamy
Secretary

2 July 1996

17th Floor Menara Boustead
Jalan Raja Chulan
50200 Kuala Lumpur
Malaysia

Notes:
1. A member of the Company entitled to attend and vote is entitled to appoint one or more proxies of his own choice to attend and vote instead of him.
2. A proxy need not be a member of the Company.
3. The form of proxy must be deposited at the Company's Principal Office at 17th Floor, Menara Boustead, Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia, not less than 48 hours before the time appointed for the meeting or adjourned meeting. Return of a completed form of proxy will not preclude a member from attending and voting personally at the meeting.
4. Copies of Directors' Service Contracts are available for inspection at the Company's registered office during business hours from 2 July 1996 to 24 July 1996 and will be available for inspection at the place of the Annual General Meeting fifteen minutes prior to and during the meeting.

TANJONG
PUBLIC LIMITED COMPANY
(Incorporated in England under the Companies Acts 1908-1917 : No. 210874)

NOTICE OF EXTRAORDINARY GENERAL MEETING

NOTICE IS HEREBY GIVEN that an Extraordinary General Meeting of TANJONG PUBLIC LIMITED COMPANY ("the Company") will be held at 12.00 noon, on Wednesday, 24 July 1996 at the Mahkota Ballroom III – Ballroom Floor, Hotel Istana, 73 Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia for the purpose of considering and, if thought fit, passing the following Special Resolution:

SPECIAL RESOLUTION

PROPOSED AMENDMENTS TO THE ARTICLES OF ASSOCIATION OF THE COMPANY

"THAT as a result of the ordinary shares of the Company which are listed on the Kuala Lumpur Stock Exchange having become prescribed securities under Section 14 of the Malaysian Securities Industry (Central Depositories) Act 1991 and in order to comply with the Listing Requirements of the Kuala Lumpur Stock Exchange and to clarify provisions on the regulation of the internal affairs of the Company, the new Articles of Association as contained in Appendix II to the Circular to Shareholders dated 2 July 1996 accompanying the Notice convening this meeting (with deletions from and additions to the existing Articles of Association marked-up for ease of reference) be and are hereby approved and adopted as the Articles of Association of the Company, in substitution for, and to the exclusion of all the existing Articles."

BY ORDER OF THE BOARD

SIUAGAMY RAMASAMY
Secretary

17th Floor Menara Boustead
Jalan Raja Chulan
50200 Kuala Lumpur
Malaysia

Date: 2 July 1996

Notes:
1. A member of the Company entitled to attend and vote is entitled to appoint one or more proxies of his/her own choice to attend and vote instead of him/her.
2. A proxy need not be a member of the Company.
3. The form of proxy must be deposited at the Company's Principal Office at 17th Floor, Menara Boustead, Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia, not less than 48 hours before the time appointed for the meeting or adjourned meeting. Lodging of a completed form of proxy will not preclude a member from attending and voting in person at the meeting should the member subsequently wish to do so.

CONTRACTS & TENDERS

ANNOUNCEMENT

SUPPLY OF X-RAY MACHINES

The Ministry of Health of Albania intends to buy with its funds 5 x-ray machines; bidding process will be conducted through Open International Bidding.

The Ministry of Health of Albania is pleased to invite all eligible sources which can supply the above mentioned goods.

A complete set of bid documents in English may be purchased by any eligible bidder on the submission of written application to the above and upon payment of a non refundable fee of USD 100.

Bids will be opened in the presence of those bidders representatives who choose to attend at 12 o'clock, August 15, 1996.

For further information you can contact the following address:

Investment & Infrastructure Department
Ministry of Health, Tirana, ALBANIA
Tel: +355 42 64661 Fax: +355 42 64632

CONTRACTS & TENDERS

Republic of Albania
Albanian Telecom

Announcement

Albanian Telecom has established to use chipcards as means of payment for the country's payphone system.

Card manufacturers are invited to participate on the tender which will be organised on the July 15th, Albanian Telecom headquarters.

A detailed description of technical specifications can be found in the following address:

Albanian Telecom
42, "Myslym Shyri" Street
Tirana, Albania

Phone: +355 42 34254
Fax: +355 42 32200

Aleksander Biberaj
Vice General Manager

COMPANY NEWS: UK

Mobile phone growth slowing

By Alan Cane

The UK mobile telephone business is continuing to show strong growth although not at the strong levels seen last year.

Quarterly subscriber figures for the three principal network operators, published yesterday, show Vodafone extending its lead over Cellnet in the overall market and over Orange in digital services.

Vodafone's shares gained 3p to close at 245¾p, while Orange lost 5¼p to close at 219¼p. Orange was floated on the main market in March this year at 205p.

Vodafone made 273,000 connections gross in the past quarter, giving net connections of 106,000.

Total UK subscribers amounted to 2.56m, while the number of digital subscribers was 718,000, an increase of 27 per cent during the quarter. Vodafone said this reflected success in attracting new subscribers and retaining customers moving from the older analogue networks to digital.

Churn, the number of subscribers leaving the network, was about 20 per cent.

Cellnet said gross subscriptions amounted to 261,000, giving a net addition of 69,000 new customers. Total subscribers are now 2.46m of which 495,000 are digital. Churn was 28 per cent.

Orange, which launched its network two years ago and offers only digital services, attracted a net 85,000 subscribers and now had 573,000. It was adding on average 30,000 subscribers a month to the network. Churn was 17.6 per cent.

All networks are seeing a slowing in customer recruitment as the business matures. Penetration, at under 10 per cent of the population, is low compared with the 20 per cent or more seen in Scandinavia.

Mobile Communications, the Financial Times newsletter, notes that Orange's share of net new digital connections has fallen from 39.3 per cent in January before its flotation to 24.2 per cent last month. This is attributed to price-cutting by rivals, together with moves to copy Orange's initiatives, such as pricing calls by the second and combining call charges and line rental in one payment.

Mercury One-2-One, the smallest operator, did not release quarterly figures yesterday, but there were estimates that it added 30,000 net subscribers.

Sir Gerald Whent, Vodafone chairman was paid £600,000 in salary and benefits last year according to the annual report compared with £561,000 in 1995. Mr Christopher Gent, managing director was paid £350,000 compared with £322,000.

Cookson acquires Camelot for $100m

By Tim Burt

Cookson Group, the industrial materials company, yesterday strengthened its presence in electronic components by acquiring Camelot Systems, the US dispenser manufacturer, for up to $100m.

The UK group said the acquisition would make it the world's only integrated manufacturer of electronic materials, laminates and circuit board equipment for the semiconductor industry.

The family owners of Camelot, based in Massachusetts, will initially receive $57m in cash, with a deferred payment of up to $43m which would become payable if its profits double over the next three years. Last year, Camelot made profits of $7.7m on sales of about $46m.

Mr Richard Oster, Cookson chief executive, said the acquisition would "complete the jigsaw" in its electronic materials arm. Cookson's largest division, it last year had operating profits of £79.8m ($122m) on sales of £684.6m.

Camelot, which makes dispensers for chemicals and solder creams, has been discussing a possible deal with Cookson for nine months. Mr Oster said it had grown rapidly – gaining 20 per cent of the world market for such dispensers – but did not have the financial muscle to expand internationally.

He hinted that the group was considering similar acquisitions, adding that projections for cash flow and borrowings over the next five years should enable it to spend about £500m on bolt-ons.

Cookson shares fell 3p to 281p.

Inspirations seeks £12m in fresh cash call

By Scheherazade Daneshkhu

Inspirations, the package holiday group, yesterday announced its second rights issue in 18 months and the proposed acquisition of Skiers World, a Cardiff-based tour operating company, for up to £1.75m.

Mr Vic Fatah, chief executive, said that Inspirations would raise £12.1m net of expenses through a rights issue of 12.7m 7.7 per cent convertible preference shares, on the basis of 2 preference for every 5 ordinary.

The shares, at 100p, are convertible at 150p a share in 1999 and the issue is fully underwritten by Beeson Gregory, stockbroker.

Inspirations' shares closed 4p down at 125p yesterday.

The proceeds of the issue will be partly used to acquire Skiers World, which sells skiing holidays mainly to the US and Canada aimed at the school holiday market.

Inspirations said that Skiers World made pre-tax profits of £354,982 on turnover of £2.7m in the year to April 30. It is warranted to achieve pre-tax profits of not less than £600,000 in its current year to April 1997.

Mr Fatah said Skiers World was a high margin business with strong winter cashflow which would help reduce Inspirations' seasonal imbalance.

Mr Jim Harris, chairman, said the rest of the proceeds would be used to strengthen the group's balance sheet and fund further expansion.

Its plans include increasing the number of AT Mays travel agency shops, which it operates through a joint venture with Carlson Travel Group, from 313 to 400, and paying deferred consideration of £2m to British Airways for Caledonian Airways.

Inspirations helped fund its £16.6m acquisition of Caledonian from BA in December 1994 through a £7m rights issue.

News of the acquisition and rights issued accompanied the company's results for the 6 months to March 31.

Pre-tax losses increased from £3.6m to £13.26m on a 95 per cent rise in turnover to £132.1m.

It blamed the higher losses partly on the inclusion of Caledonian Airways for the first time in the traditionally loss-making winter period and partly on greater overheads caused by expansion.

Mr Harris said Caledonian Airways carried 20 per cent more passengers in winter 1995-96, compared with the previous winter. He said that booking levels for summer 1996 were 5 per cent ahead of last year, and that prices were firmer.

Losses per share were 26.38p (8.52p), but the interim dividend was increased rose 11 per cent to 0.78p.

Thomas Cook strengthens hand by adding Sunworld

By Scheherazade Daneshkhu, Leisure Industries Correspondent

Thomas Cook, the high street travel agent, finally announced yesterday the acquisition of Sunworld, the tour operator privately owned by GVI, the Spanish group, for an undisclosed sum, believed to be £38m ($58m).

The deal, which includes the Oasis Park Hotel, a three-star hotel in Minorca, had been expected last month but was delayed by technicalities.

Thomas Cook said buying Sunworld, which has a 5 per cent share of the UK short-haul package holiday market, would strengthen its position in its core UK market. Sunworld is the the UK's fifth largest tour operator after Thomson, Airtours, First Choice and Cosmos-Avro. The five account for about 60 per cent of overseas summer holidays.

Mr Peter Long, chief executive of Sunworld and founding shareholder is to leave the business.

He said Sunworld needed a strong business partner to *accelerate its growth and open* up new opportunities.

"The time is now right for me to move on," he said.

Thomas Cook, which is owned by Westdeutsche Landesbank, turned to Sunworld as its own label supplier last year, after dropping First Choice, the company in which it took a 21 per cent stake in 1993.

It has further reduced its stake to 11 per cent, mainly by choosing not to participate in a £44.1m rights issue last October, when First Choice announced profits of only £1.3m after a disastrous summer season.

Mr Ulrich Zierke, chief executive of the Thomas Cook group, said the acquisition of Sunworld, which is subject to European Commission approval, was "a natural extension of our existing association".

Mr Johannes Ringel, chairman, *said the deal was a demonstration* of WestLB's commitment to the group's travel business. There have been persistent rumours that WestLB might sell off the retail side.

Mr Mark McCafferty, the managing director of worldwide travel-related businesses at Thomas Cook said the acquisition was in line with the group's strategy to have a mix of product and distribution as well as a mix of distribution channels.

"If you are in tour operating only or retail only, you are vulnerable," he said.

Thomas Cook last year *reported pre-tax profits of* £25.2m after a £20.2m write-down of its shareholding in First Choice.

Compass to spend $26m on Florida catering business

By David Blackwell

Compass, the rapidly expanding international contract catering group, virtually doubled its presence in the US education sector yesterday with the acquisition of a private Florida caterer serving colleges and universities.

It is paying up to $26m for Professional Food-Service Management (PFM), which has 100 accounts in 27 states. Sales in the year to August 31 were $89.5m.

The deal almost doubles Compass's sales to US educational establishments to $200m a year. While this is less than half the sales of market leader *Marriott, it does put the group* firmly in fourth place behind Sodexho and Aramark.

"This deal marks a big stride in catching up with the opposition," said Mr Mike Bailey, head of Compass in the US, in New York yesterday.

The US education market was worth $19bn a year and was under-contracted, Mr Bailey said. He expected rapidly to drive margins at the acquisition up to 4 per cent – the level Compass has achieved at Canteen, its US business acquired just over two years ago.

Compass's existing business in education was mainly in schools, while PFM's accounts were principally with colleges and universities.

The combination of the two would allow the group to compete far more effectively in the US education sector, said Mr Bailey.

The consideration of $24m on completion is payable partly in cash, partly through a $2.5m loan note and partly through the issue of 1.74m shares. The shares closed unchanged yesterday at 586p.

The balance of $2m is payable in two years, subject to performance.

Mr Larry Pande, the vendor who built the business over 30 years, is joining Compass as a consultant.

The rest of the PFM management team is being retained.

Last month, Compass completed the acquisition of Eurest France by paying FFr590m ($114m) to buy out the interest held by its rival Sodexho, the leading French contract caterer that also owns Gardner Merchant of the UK.

NEWS DIGEST

Pillsbury in South American purchase

Pillsbury, a US subsidiary of Grand Metropolitan, yesterday bought São Paulo-based Frescarini, Brazil's leading manufacturer of refrigerated dough and fresh pasta for an undisclosed sum "not material to GrandMet shareholder funds".

Frescarini is being sold by LPC, a division of the French multinational Danone and a manufacturer in Brazil of dairy products.

The Frescarini business has annual sales of $45m (£29m). It includes refrigerated dough for Pasteis (snacks) and pizza, in addition to fresh pasta. It has tripled in size since 1993.

Lucio Rizzi, president of Pillsbury International, commented: "Frescarini gives us leadership in refrigerated dough in a very important growth market."

Quantum buys Lloyd's stake

Mr George Soros's Quantum Fund has bought a 4.4 per cent stake in Hiscox Select, the Lloyd's of London investment company. The move follows a revival in investor interest at Lloyd's, which hopes to implement its recovery plan in August.

Earlier this year, Mr Soros acquired a 3.6 per cent stake in CLM Insurance Fund, another Lloyd's investment vehicle.

Ralph Atkins

In Brief

■ IMI has acquired Mosier Industries of Ohio, a maker of pneumatic actuators, for $4.7m (£3.1m). The deal was effected through IMI Norgren, part of its fluid power operation.

■ VOSPER THORNYCROFT, the warship builder, has acquired Maritime Dynamics, the US manufacturer of ride control systems for fast ferries, for $8.5m (£5.6m) cash. The UK group predicted the two companies, which have worked together for several years, would develop new technology and products for international ferry operators.

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Dividends: Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Berkeley	Yr to Apr 30	334.3	(283.4)	43.4	(37.6)	34.6†	(31.4)	8.2	Sept 2	5.65	8.5	7.75
Brasway	Yr to Apr 30	40	(39)	2.55	(1.01)	2.25	(1.03)	0.55	Oct 24	0.35	0.83	0.59
Cassidy Brothers	Yr to Apr 30	7.04	(7.33)	0.491	(0.531)	6.37	(6.76)	2.25	Aug 23	2.25	3	3
Daejan	Yr to Mar 31	22.8□	(21.5□)	20.58	(23.92)	89	(110.8)	19	Oct 1	20	35	32
Energy Capital	Yr to Dec 31 ★	1.95■	(0.412■)	1.55	(0.157)	5.77	(0.51)	4	Aug 29	-	4	-
Hartstone	Yr to Mar 31	213.4	(218)	0.039♠	(4.7♥)	0.21†	(1.8)	0.32	Sept 9	0.32	0.48	0.32
Inspirations	6 mths to Mar 31	132.1	(67.8)	13.3L	(3.61L)	26.38L†	(8.52L)	0.78	Aug 23	0.7	-	3.5
Marston Thompson	53 wks to Mar 30	171.6	(153.4)	27.3	(24.5)	24.66	(20.06)	4.8	Aug 10	4.8	7.3	6.56
Meconic	Yr to May 3	33.6	(29.8)	5.83	(4.18)	11.99	(9.1)	3.35	Oct 1	-	5	-
Total Systems	Yr to Mar 31	2.89	(2.29)	0.222	(0.054)	1.6	(0.34)	1	Sept 17	nil	1	nil
Waterhouse §	15 mths to Dec 31 ☆	1.01	(0.516)	0.43L	(0.26L♠)	17.3L	(10.4L)	-	-	-	-	-

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. ♠After exceptional charge. ♥After exceptional credit. †On increased capital. □Net rental income. ★Comparatives restated and cover 11 months. ■Gross revenue. ☆Comparatives for 12 months. §USM stock.

INTERNATIONAL CAPITAL MARKETS

Strong housing figures send Treasuries lower

By Lisa Bransten in New York and Samer Iskandar in London

Another set of surprisingly strong housing figures sent US Treasury prices lower in early trading yesterday as the Federal Reserve's Open Market Committee began its two-day meeting to consider monetary policy.

In mid-morning trading, the benchmark 30-year Treasury was ½ lower at 88¾ to yield 6.934 per cent and the two-year note was down ⅛ at 100$\frac{1}{32}$, yielding 6.216 per cent. By noon, the September 30-year bond future was $\frac{13}{32}$ weaker at 109¼.

Sales of new homes in May rose to 828,000 from 770,000 in April, suggesting that rising interest rates have not slowed activity in the housing sector. Economists had expected new home sales to have fallen to 740,000.

While most on Wall Street had discounted the chances that the Fed would boost interest rates at this week's FOMC meeting, some economists suggested yesterday that the strong housing data might spur the Fed to tighten sooner rather than later.

"The strength in the housing sector should begin to make bond bulls and Fed policy makers alike rethink the consensus view that a downturn in interest-sensitive sectors such as housing will naturally slow the economy in the second half of the year," said Mr Joseph Liro of CIBC Wood Gundy.

The market paid little attention to a 0.3 per cent increase in the index of leading economic indicators for May, which was largely what economists had forecast.

GOVERNMENT BONDS

■ The weakness of US Treasuries spilled into European markets unevenly, with Italian bonds showing the best performance.

Liffe's September BTP future settled at 116.82, unchanged. In the cash market, the 10-year benchmark BTP was also unchanged at 101.82, its yield spread over Bunds 4 basis points tighter at 286 points.

Analysts agree that further convergence of Italian yields with those of German bunds will depend on the outcome of the US Fed's FOMC meeting.

"Provided the Fed does not tighten monetary policy, the spread [of BTP yields over bunds] could go down to around 250 basis points in the medium term," said Ms Marie Owens Thomsen, chief economist at BfP-Dresdner in Paris.

■ German bunds were the poorest performers among European markets. Liffe's September bund future closed at 95.53, down 0.17. In the cash market, the 10-year benchmark bund was 0.22 lower at 97.93.

■ UK gilts slightly outperformed bunds. Liffe's September long gilt future settled unchanged at 106$\frac{17}{32}$, having totally erased earlier gains. The market was supported by the firmness of sterling in foreign exchange dealing.

■ French bonds were dragged down by falling Treasuries and bunds. Matif's September notional future closed at 121.82, down 0.06, after reaching a low of 121.76.

In the cash market, the 7¼ per cent OAT due 2006 lost 0.10 to close at 105.22. Its yield was 3 basis points lower than that of the equivalent bund, compared with 2 basis points on Monday.

The sell-off "could have been worse", said one French futures trader. "The market was supported by late buyers who felt they had missed out on last week's rally."

Matif, the French financial futures exchange, yesterday announced a reduction in the margin requirement for its notional and Ecu bond contracts and its futures on three-month Pibor rates, due to lower market volatility.

The daily fluctuation limits were also reduced, from 2.5 to 2.0 percentage points on the bond futures and from 0.80 to 0.60 points on the Pibor contract. These changes will take effect on July 5 (margin requirement) and July 8 (new fluctuation limits).

The list of instruments accepted as initial margin has also been extended to include French and German long-term government bonds, valued at 80 per cent of their nominal amount.

Saab plans $1bn facility as part of wider refinancing

By Antonia Sharpe

Saab, the Swedish car manufacturer, is seeking to raise $1bn through a five-year syndicated loan as part of a wider plan to put the company on a sound financial footing.

The facility, arranged by J.P. Morgan, follows news last week that Saab's two owners, General Motors of the US and Investor, the main arm of the Wallenberg empire, are to pump SKr3.48bn ($524m) into Saab in a refinancing deal that should lead to a complete take-over by GM.

SYNDICATED LOANS

The facility will replace a $750m loan which Saab took out in 1991 and provide the company with additional funding. J.P. Morgan declined to give details on pricing but it is believed that it could be in line with that on an outstanding £120m five-year transaction for Saab's UK financing arm, which was priced at between 40 and 42.5 basis points over London interbank offered rate.

The company held a meeting with about a dozen banks which have been invited to underwrite the loan. Underwriters will be asked to take on a hefty $100m each. The underwriting phase is expected to be completed by the middle of the month, after which the loan will be released into general syndication.

Saab is the latest of several Swedish companies to tap the syndicated loans market in recent months, and could well have been encouraged by the willingness of banks to participate in facilities for the others. Construction company Skanska is also believed to be close to launching a $650m facility, via Deutsche and Chase.

Several Swedish facilities have been increased due to the strong interest from the market, suggesting that any credit concerns which banks may have had as a result of the country's problems in recent years have faded.

The $750m seven-year refinancing for Investor was raised to $1bn despite its fine terms. Fifteen banks, including the arranger Enskilda, have participated in the loan, which is scheduled to be signed today.

Other Swedish loans which have been increased include a debut deal for Vasakronan, the Swedish state-owned real estate company, which was launched at $300m and raised to $300m, and a five-year transaction for ASG, a freight-forwarding company, up from an initial DM200m to DM350m.

Other high-profile facilities have also been increased, suggesting that banks are still flush with cash. The $500m loan for SPT Telecom of the Czech Republic, which had been put on hold because of a legal dispute, is set to be increased by about 50 per cent after attracting $1bn from the market. The loan, led by Chase and Citibank, should be signed next week.

The $500m loan for Billiton, the international mining and minerals subsidiary of South Africa's Gencor, was also raised, to $650m, after being heavily over-subscribed in general syndication. Banks were keen to be in the deal, which was signed last week, because of the relatively generous terms and the prospect of future business from the company.

Among new loans, Southern Energy, which failed to take over Southern Water, is seeking to raise £500m for its own requirements, via BZW and Chase.

Steady flow of smaller deals in wide range of currencies

By Conner Middelmann

With this week's horizon clouded by events in the US – the ongoing meeting of the Federal Open Market Committee, Thursday's Independence Day and Friday's jobs data – large eurobond offerings appear to have been put on hold. Nevertheless, the market saw a steady flow of smaller deals yesterday in a wide range of currencies.

The largest and most notable offering was a DM1.25bn issue of asset-backed floating-rate notes for Discover, the largest US credit card company.

The bonds are backed by credit card receivables originated in the US – only the second such transaction in the D-Mark sector – and are rated triple A.

The pricing of the deal, seven basis points over Libor at the re-offer price, was the same as on Citibank's DM1bn offering launched some months ago.

Given that Discover is a less well-known name and its deal was larger, this reflected strong investor demand, said lead manager Merrill Lynch.

An official said the bonds were placed mainly among German and Luxembourg money market funds as well as banks, corporate treasuries and fund managers around Europe.

INTERNATIONAL BONDS

"Amid the ongoing uncertainty over the direction of interest rates, some funds are very interested in defensive instruments like FRNs," he said.

This defensive stance also benefited Westpac, the Australian bank, which issued $500m of one-year FRNs yielding Libor less 7 basis points at the re-offer price.

Lead manager HSBC reported sales to money market funds, corporates and banks, mainly in the UK.

UK supermarket chain J. Sainsbury launched $200m of three-year bonds priced to offer a substantial yield pick-up over similarly rated corporate bonds in that maturity: at a re-offer spread of 25 basis points over Treasuries, it compared favourably with McDonalds' bonds due December 1999 which trade at 8 basis points over Treasuries, and Hewlett-Packard bonds yielding 12 basis points more, a dealer at lead Goldman Sachs said.

Two Latin borrowers also tapped the dollar market: for more risk-seeking investors, the unrated City of Rio de Janeiro issued $125m of three-year bonds priced to yield 400 basis points over Treasuries, via Merrill Lynch, while Banco de Inversiones y Comercio Exterior, the Argentine foreign trade bank, issued $100m of two-year, government-guaranteed bonds yielding 240 basis points over Treasuries, via UBS.

The Czech koruna sector saw the third new issue in as many months, a Kč1.5bn two-year offering for the International Financing Corporation, the World Bank's private financing arm. The World Bank and the European Bank for Reconstruction and Development issued one-year deals in recent weeks; all three deals were led by ING Barings, which is keen to become a leading player in this market.

A syndicate official said that the triple A rated bonds, which offer a hefty 11 per cent yield, saw good demand from the usual European retail buyers as well as from dedicated Eastern Europe funds, Asian and offshore US investors.

New international bond issues

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
■ US DOLLARS							
Westpac Banking Corp‡	500	(a)	99.97R	Jul 1997	0.05R	-	HSBC Markets
J. Sainsbury(s)	200	6.63	99.89R	Dec 1999	0.20R	+25(6¼%-99)	Goldman Sachs Intl
City of Rio de Janeiro#	125	10.38	99.96	Jul 1999	0.75	+400(6¼%-99)	Merrill Lynch
BICE	100	8.50	99.85R	Jul 1998	0.63R	+240(6¼%-98)	UBS
■ D-MARKS							
Discover Card Master Trust‡	1.25bn	(b)	100.0R	Jul 1999	0.18R	-	Merrill Lynch
BCP Venezuela Investment(s)	100	9.25	100.0R	Dec 2007	2.50R	-	CSFB Effectenbank
■ YEN							
Den Danske Bank#(s)	3bn	2.23	100.20	May 2000	0.25	-	Yamaichi Intl. Europe
■ SWISS FRANCS							
DePfa(d)	150	3.50	101.25	Dec 1999	STD	-	Credit Suisse/UBS
■ DANISH KRONER							
LB Schleswig-Holstein	200	5.63	100.00	Jul 1999	0.20	-	Merrill Lynch
■ GUILDERS							
DePfa Finance(s)	200	6.00	99.70R	Dec 2002	0.30R	+30(6¼%-02)	ABN Amro Hoare Govett
■ FRENCH FRANCS							
Comunidad Auton Andalucia(c)	650	6.25	98.57R	Dec 2003	0.30R	+27(l)	Paribas
■ CANADIAN DOLLARS							
WestLB Finance	100	7.25	100.1R	Jul 2001	0.25R	+10(7½%-01)	CIBC Wood Gundy/WestLB
■ CZECH KORUNA							
International Finance Corp	1.5bn	11.00	100.0R	Jul 1998	0.20R	-	ING Barings

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. ✶ Unlisted. § Convertible. ϕ With equity warrants. ‡ Floating-rate note. # Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) 3-mth Libor +10bp. b) 3-mth Libor +7bp. c) Originally issued in Dec 93 at FFr1.3bn. Plus 225 days accrued interest. d) Fungible with SFr400m. Plus 120 days accrued interest. l) Over interpolated yield. s) Short 1st coupon

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

		Coupon	Red Date	Price	Day's change	Yield	Week ago	Month ago
Australia		10.000	02/06	107.1280	–0.070	8.91	8.96	8.76
Austria		6.250	05/06	97.2300	–0.120	6.54	6.56	6.44
Belgium		7.000	05/06	101.6000	–0.060	6.77	6.80	6.68
Canada *		7.000	12/06	94.9000	–0.060	7.72	7.79	7.57
Denmark		8.000	03/06	103.9400	–0.080	7.41	7.47	7.37
France	BTAN	5.750	03/01	100.5000	–0.250	5.62	5.66	5.50
	OAT	7.250	04/06	105.2200	–0.100	6.51	6.57	6.43
Germany Bund		6.250	04/06	97.9300	–0.220	6.54	6.57	6.42
Ireland		8.000	08/06	102.5600	+0.060	7.62	7.72	7.58
Italy		9.500	02/06	101.8200	-	9.21†	9.22	9.36
Japan	No 140	6.600	06/01	119.1817	–0.250	2.29	2.34	2.32
	No 182	3.000	09/05	98.2642	–0.310	3.25	3.27	3.22
Netherlands		6.000	01/06	96.7600	–0.160	6.46	6.49	6.33
Portugal		11.875	02/05	118.6500	+0.410	8.69	8.72	8.94
Spain		8.800	04/06	99.8900	+0.060	8.81	8.90	9.10
Sweden		6.000	02/05	86.5351	–0.270	8.24	8.23	8.53
UK Gilts		8.000	12/00	103–01	+3/32	7.18	7.26	7.39
		7.500	12/06	97–03	+1/32	7.91	7.99	8.03
		9.000	10/08	107–17	+1/32	8.02	8.11	8.13
US Treasury *		6.875	05/06	100–18	–15/32	6.79	6.90	6.65
		6.000	02/26	88–11	–8/32	6.93	7.06	6.84
ECU (French Govt)		7.500	04/05	103.6800	–0.160	6.92	6.97	6.87

London closing, *New York mid-day. Yields: Local market standard.
† Gross (including withholding tax at 12.5 per cent payable by nonresidents)
Prices: US, UK in 32nds, others in decimal. Source: MMS International

US INTEREST RATES

Latest		Treasury Bills and Bond Yields			
		One month	-	Two year	6.17
Prime rate	8¼	Two month	-	Three year	6.33
Broker loan rate	7	Three month	5.28	Five year	6.51
Fed.funds	5½	Six month	5.47	10-year	6.76
Fed.funds at intervention	-	One year	5.75	30-year	6.91

BOND FUTURES AND OPTIONS

France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Sep	121.94	121.82	–0.06	122.00	121.74	73,338	164,180
Dec	120.56	120.48	–0.06	120.62	120.44	2,018	27,372
Mar	120.40	120.32	–0.06	-	-	2	1,486

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

Strike Price	Calls Aug	Calls Sep	Calls Dec	Puts Aug	Puts Sep	Puts Dec
120	-	-	1.70	0.11	0.30	1.16
121	-	1.38	1.13	0.25	0.54	-
122	0.43	0.75	0.74	0.63	0.91	-
123	0.12	0.34	-	-	-	-
124	-	0.13	0.24	-	-	-

Est. vol. total, Calls 17,254 Puts 16,382. Previous day's open int., Calls 114,187 Puts 126,336.

Germany

■ NOTIONAL GERMAN BUND FUTURES (LIFFE)* DM250,000 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	95.68	95.53	-0.17	95.80	95.43	115817	205187
Dec	94.86	94.64	-0.16	94.86	94.73	1021	2880

■ BUND FUTURES OPTIONS (LIFFE) DM250,000 points of 100%

Strike Price	Calls Aug	Calls Sep	Calls Oct	Calls Dec	Puts Aug	Puts Sep	Puts Oct	Puts Dec
9550	0.47	0.74	0.55	0.85	0.44	0.71	1.41	1.71
9600	0.24	0.49	0.38	0.66	0.71	0.96	1.74	2.02
9650	0.11	0.32	0.26	0.51	1.08	1.29	2.12	2.37

Est. vol. total, Calls 7680 Puts 12944. Previous day's open int., Calls 137738 Puts 153973

Italy

■ NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)* Lira 200m 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	116.92	116.82	-	117.11	116.71	31345	58907
Dec	-	116.07	-	-	-	0	485

■ ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE) Lira200m 100ths of 100%

Strike Price	Calls Sep	Calls Dec	Puts Sep	Puts Dec
11650	1.38	1.84	1.08	2.27
11700	1.11	1.60	1.29	2.53
11750	0.88	1.40	1.58	2.83

Est. vol. total, Calls 5266 Puts 1314. Previous day's open int., Calls 69988 Puts 69863

Spain

■ NOTIONAL SPANISH BOND FUTURES (MEFF)

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Sep	100.85	100.77	–0.05	101.21	100.66	65,469	60,844

UK

■ NOTIONAL UK GILT FUTURES (LIFFE)* £50,000 32nds of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	106-19	106-17	-	106-26	106-15	42171	121101
Dec	105-22	105-19	+0-02	105-22	105-22	6	0

■ LONG GILT FUTURES OPTIONS (LIFFE) £50,000 64ths of 100%

Strike Price	Calls Aug	Calls Sep	Calls Oct	Calls Dec	Puts Aug	Puts Sep	Puts Oct	Puts Dec
106	0-61	1-20	1-08	1-39	0-27	0-50	1-34	2-01
107	0-27	0-50	0-47	1-13	0-57	1-16	2-09	2-39
108	0-10	0-26	0-29	0-55	1-40	1-58	2-55	3-17

Est. vol. total, Calls 2443 Puts 1352. Previous day's open int., Calls 20156 Puts 17679

Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Sep	91.12	90.92	–0.14	91.12	90.86	983	6,202

US

■ US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Sep	109–18	109–15	–0–03	109–20	109–10	198,651	436,701
Dec	109–01	108–30	–0–03	109–01	108–26	1,484	17,915
Mar	–	108–21	–	–	–	241	2,967

Japan

■ NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

	Open	Close	Change	High	Low	Est. vol	Open int.
Sep	118.90	-	-	118.98	118.79	2621	n/a
Dec	117.85	-	-	117.91	117.80	220	n/a

* LIFFE futures also traded on APT. All Open Interest figs. are for previous day.

FT-ACTUARIES FIXED INTEREST INDICES

Price Indices UK Gilts	Tue Jul 2	Day's change %	Mon Jul 1	Accrued interest	xd adj. ytd		Low coupon yield Jul 2	Jul 1	Yr. ago	Medium coupon yield Jul 2	Jul 1	Yr. ago	High coupon yield Jul 2	Jul 1	Yr. ago
1 Up to 5 years (22)	122.66	0.10	122.54	3.01	4.26	5 yrs	7.29	7.32	8.16	7.34	7.37	8.17	7.43	7.45	8.24
2 5-15 years (19)	146.73	0.14	146.53	2.45	5.64	15 yrs	8.12	8.14	8.44	8.13	8.15	8.45	8.22	8.24	8.58
3 Over 15 years (9)	161.66	0.18	161.36	3.37	5.43	20 yrs	8.22	8.23	8.44	8.21	8.23	8.46	8.28	8.30	8.56
4 Irredeemables (6)	182.94	0.41	182.19	2.27	6.36	Irred.†	8.28	8.32	8.47						
5 All stocks (56)	142.34	0.13	142.15	2.88	5.13										

Index-linked							Inflation 5% Jul 2	Jul 1	Yr. ago	Inflation 10% Jul 2	Jul 1	Yr. ago
6 Up to 5 years (1)	196.48	0.22	196.04	1.64	4.43	Up to 5 yrs	2.56	2.68	3.53	1.08	1.17	1.91
7 Over 5 years (11)	187.63	0.35	186.96	1.78	1.81	Over 5 yrs	3.60	3.62	3.73	3.59	3.62	3.54
8 All stocks (12)	187.75	0.34	187.10	1.78	1.86							

Average gross redemption yields are shown above. Coupon Bands: Low: 0%-7¾%; Medium: 8%-10¾%; High: 11% and over. † Flat yield. ytd Year to date.

FT FIXED INTEREST INDICES

	Jul 2	Jul 1	Jun 28	Jun 27	Jun 26	Yr ago	High*	Low*
Govt. Secs. (UK)	92.91	92.81	92.56	92.56	92.52	91.67	96.34	91.59
Fixed interest	112.53	112.12	112.10	112.00	111.95	110.79	115.23	110.74

GILT EDGED ACTIVITY INDICES

	Jul 1	Jun 28	Jun 27	Jun 26	Jun 25
Gilt Edged bargains	77.4	79.1	78.3	90.9	87.8
5-day average	82.7	80.5	78.6	78.1	75.3

* for 1996. Government Securities high since compilation: 127.4 (09/01/35), low 49.18 (03/01/75). Fixed Interest high since compilation: 133.87 (21/01/94), low 50.53 (03/01/75). Basis 100: Government Securities 15/10/26 and Fixed Interest 1928. SE activity indices rebased 1974.

FT/ISMA INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market. Latest prices at 7:10 pm on July 2

	Issued	Bid	Offer	Chg.	Yield
U.S. DOLLAR STRAIGHTS					
Abbey Natl Treasury 6½ 03	1000	96¾	97	-¼	7.11
ABN Amro Bank 7¼ 05	1000	99¼	99½	-¼	7.50
African Dev Bk 7⅜ 23	500	95⅝	95⅞	+¼	7.72
Alberta Province 7⅝ 98	1000	102¼	102½	-⅛	6.53
Sweden 8 97	2500	105	105⅛		4.07
United Kingdom 7¼ 97	5500	104	104⅛		3.94
Volkswagen Intl Fin 7 03	1000	102	102½	-¼	6.63
World Bank 0 15	2000	30⅛	30⅜	-⅛	6.36
World Bank 5⅞ 03	3000	98½	98¾	-⅛	6.13
Abbey Natl Treasury 8 03 £	1000	100⅛	100⅜		7.98
British Land 8⅞ 23 £	150	90⅜	90¾		10.14
Denmark 6⅛ 98 £	800	100⅛	100⅜	+⅛	6.67
Depfa Finance 7⅛ 03 £	500	94⅞	95⅛		8.06
EIB 8 03 £	1000	101	101⅛		7.80

UK GILTS PRICES

	Notes	Yield Int	Yield Red	Price £	+ or –	52 week High	52 week Low
Shorts* (Lives up to Five Years)							
Treas 3pc 1996		0.81	5.57	219½	+⅛	219½	210½
Conversion 10pc 1996		9.85	5.67	101⅝		104⅛	101⅝
Treas 13¼pc 1997‡‡		12.73	6.59	104⅛		108½	104⅛
Exch 10½pc 1997		10.19	5.89	103		105⅞	103
Treas Cnv 7pc 1997‡‡		6.82	5.77	101⅛		101⅞	99⅞
Treas 8¾pc 1997‡‡		8.49	5.91	103⅛		104⅞	102⅞
Exch 15pc 1997		13.48	5.94	111⅛		116⅛	111⅛

	Notes	Yield Int	Yield Red	Price £	+ or –	52 week High	52 week Low
Treas 8½pc 2005‡‡		8.15	7.85	104⅛	+⅛	109⅞	101
Treas 7½pc 2006‡‡		7.72	7.91	97⅛	+⅛	101⅞	94⅞
Treas 7¾pc 2006‡‡		7.89	7.94	98⅝	+⅛	103⅛	95⅛
Treas 8pc 2002-6‡‡		7.94	7.91	100⅞	+⅛	104⅞	96⅞
Treas 11¾pc 2003-7		9.75	7.71	120⅞	+⅛	125⅛	118⅛
Treas 8½pc 2007 ‡‡		8.19	7.98	103⅞	+⅛	108⅞	100⅞
Treas 13½pc 2004-8		10.18	7.80	132⅞	+⅛	138⅞	130⅞

Index-Linked	Notes (b)	Yield (1)	Yield (2)	Price £	+ or –	52 week High	52 week Low
4⅝pc '98‡‡	(135.6)	1.08	2.56	113⅞	+¼	113⅞	111⅛
2½pc '01	(78.3)	3.07	3.60	180⅛	+⅛	180⅛	174⅞
2½pc '03	(78.8)	3.30	3.71	175⅛	+⅛	176⅛	170⅞
4⅜pc '04‡‡	(135.6)	3.35	3.72	114⅛	+⅛	116⅞	112⅞
2pc '06	(69.5)	3.45	3.73	183⅞	+⅛	185⅞	179
2½pc '09	(78.8)	3.53	3.77	164⅞	+⅛	167¼	161⅛
2½pc '11	(74.6)	3.58	3.79	168⅞	+⅛	173⅛	166⅞

CURRENCIES AND MONEY

MARKETS REPORT

Dollar reaches highest level since January 1994

By Philip Gawith

The dollar yesterday made the long awaited breach of the psychologically important Y110 level, although analysts cautioned that more significant technical hurdles still lay ahead.

The breach was hardly emphatic, and the dollar spent much of the European trading session below Y110. It closed in London at Y110.140, from Y109.615. There was no particularly new development which sparked the latest leg of the dollar's advance. Against the D-Mark it finished at DM1.5270 from DM1.5285.

Elsewhere, sterling remained a focus of market attention as it continued its onward march. It finished at DM2.3762, from DM2.3701. Against the dollar it was barely changed at $1.5562, from $1.5558.

The worst set of current account figures seen in the past year pushed the Australian dollar lower. It finished at around 78.3 US cents.

In Europe the main mover was the Swedish krona which lost ground to close at SKr4.39 against the D-Mark from SKr4.363 after the repo rate was cut to 5.9 per cent from 6.1 per cent.

■ There remains a fair degree of caution about the outlook for the dollar, notwithstanding its rally above Y110. Some observers believe the US Administration does not favour a stronger currency.

Against this is the attitude of the Bank of Japan which is believed still to be strongly committed to a weaker yen.

Mr Michael Burke, analyst at Citibank in London, said: "Will the US continue to play ball? There is a strong feeling that the G-7 communique did not call for a stronger dollar because the US did not want it." He noted that Mr Robert Rubin, the US treasury secretary, had recently said the US was committed to a strong dollar rather than a stronger dollar.

"I am not at all convinced that the Administration is going to pursue a stronger dollar policy."

Mr Chris Turner, currency strategist at BZW in London, said Y110.5 was a significant technical level, and that profit-taking ahead of that point made an early breach unlikely. He said there were also various "straws in the wind", such as the pick-up in Japanese export volumes, that suggest "we should not get too bearish about the yen at these levels." He said he was "not looking for a sustained shift above Y110."

■ Investors present a number of different reasons for buying sterling. These include:

* the very high yield it offers - ten year gilts are currently yielding over 150 basis points more than the equivalent German bunds;
* politics: the belief that the next election will not produce a big change in economic policy, while a decisive Labour victory, which is expected, should actually reduce the political uncertainty that is hanging over Sterling. The currency is also expected to benefit from a Labour government's expected more positive attitude towards EMU.

Mr Burke said he found this reasoning "quite unconvincing", as it ignored the deterioration in the trade balance, and public finances, which augur poorly for sterling. He said a tax-cutting budget in November risked further aggravating the unbalanced state of the UK economic recovery, which is primarily consumer-driven. He predicted that "the possibility of a Labour government coinciding with a balance of payments crisis is very high."

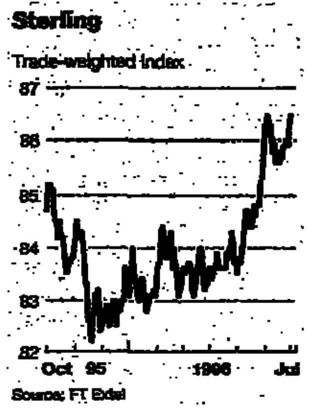
Mr Burke said the current rally was "a window of sterling appreciation that would not last a year."

Mr Turner said the rally in the pound was the product of a succession of investors shifting from underweight or negative sterling holdings towards a more neutral position. US investors took the lead in the wake of Mr Tony Blair's visit to that country in April. They were later followed by Swiss and German investors. More recently, Japanese investors have been buying UK bonds and equities.

He said that DM2.40 and Y175 might well be as far as the pound would go. "We will probably see the final throes of sterling's rally over the next month or so."

He said monetary policy appeared too loose (although sterling's rally itself represents a tightening of policy) and that was likely to show up in higher inflation and deteriorating trade balance, both of which could drag sterling lower.

Sterling



Source: FT Extel

■ Pound in New York

Jul 2	—Latest—	—Prev. close—
£ spot	1.5585	1.5580
1 mth	1.5582	1.5583
3 mth	1.5580	1.5582
1 yr	1.5569	1.5558

POUND SPOT FORWARD AGAINST THE POUND

Jul 2		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	Day's mid low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	Bank of Eng. Index
Europe													
Austria	(Sch)	16.7225	+0.0423	155 - 294	16.7316	16.6934	16.6913	2.2	16.6163	2.5	-	-	104.8
Belgium	(BFr)	48.9114	+0.1254	708 - 519	49.1380	48.7670	48.8164	2.3	48.6264	2.3	47.8364	2.2	108.4
Denmark	(DKr)	9.1541	+0.0216	487 - 594	9.1586	9.1316	9.1409	1.8	9.12	1.5	9.0122	1.6	107.3
Finland	(FM)	7.2785	+0.0457	721 - 849	7.2850	7.2320	7.2741	0.7	7.266	0.7	-	-	81.4
France	(FFr)	8.0384	+0.0174	303 - 364	8.0414	8.0188	8.0312	1.2	7.9985	1.7	7.9051	1.6	109.0
Germany	(DM)	2.3762	+0.0061	752 - 771	2.3783	2.3690	2.3718	2.2	2.3627	2.3	2.3289	2.2	108.1
Greece	(Dr)	373.492	+0.085	314 - 669	374.185	372.673	-	-	-	-	-	-	67.5
Ireland	(I£)	0.9742	+0.0014	735 - 750	0.9755	0.9714	0.9737	0.6	0.9725	0.7	0.968	0.6	99.9
Italy	(L)	2392.11	+3.6	060 - 343	2395.30	2383.60	2397.85	-2.8	2407.51	-2.6	2440.01	-2.0	74.8
Luxembourg	(LFr)	48.9114	+0.1254	708 - 519	49.1380	48.7670	48.8164	2.3	48.6264	2.3	47.8414	2.2	108.4
Netherlands	(Fl)	2.6606	+0.0073	643 - 669	2.6736	2.6592	2.6596	2.7	2.6475	2.7	2.5998	2.5	108.4
Norway	(NKr)	10.1381	+0.0221	279 - 482	10.1374	10.1133	10.1276	1.6	10.1106	1.0	10.0271	1.1	98.7
Portugal	(Es)	244.236	+0.487	105 - 371	244.375	243.828	244.663	-2.1	245.568	-2.2	-	-	94.6
Spain	(Pta)	199.693	+0.277	576 - 809	199.978	199.435	199.993	-1.6	200.468	-1.6	201.268	-1.1	80.5
Sweden	(SKr)	10.4361	+0.0698	176 - 582	10.4593	10.3428	10.4294	0.0	10.4265	0.0	10.4285	0.0	86.8
Switzerland	(SFr)	1.9487	+0.0056	476 - 498	1.9499	1.9458	1.9437	3.1	1.9329	3.3	1.8847	3.3	111.0
UK	(£)	-	-	-	-	-	-	-	-	-	-	-	86.7
Ecu	-	1.2538	+0.0035	532 - 544	1.2545	1.2504	1.2525	1.2	1.2495	1.4	1.2382	1.4	-
SDR†	-	1.076930	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	1.5540	+0.0004	535 - 545	1.5575	1.5533	-	-	-	-	-	-	-
Brazil	(R$)	1.5642	+0.0022	636 - 647	1.5650	1.5608	-	-	-	-	-	-	-
Canada	(C$)	2.1221	+0.0021	212 - 229	2.1246	2.1198	2.1214	0.4	2.1178	0.6	2.1097	0.6	84.5
Mexico	(New Peso)	11.8058	-0.0514	992 - 123	11.8486	11.7987	-	-	-	-	-	-	-
USA	($)	1.5562	+0.0004	558 - 565	1.5580	1.5541	1.5558	0.3	1.5555	0.2	1.5587	0.0	87.4
Pacific/Middle East/Africa													
Australia	(A$)	1.9881	+0.0124	870 - 891	1.9894	1.9764	1.9907	-1.5	1.9957	-1.5	2.021	-1.7	82.8
Hong Kong	(HK$)	12.0458	+0.0034	427 - 489	12.0594	12.0304	12.0377	0.8	12.0281	0.7	12.0083	0.3	-
India	(Rs)	54.3576	+0.0916	541 - 110	54.7230	54.0600	-	-	-	-	-	-	-
Israel	(Shk)	5.0018	+0.0157	958 - 074	5.0075	4.9747	-	-	-	-	-	-	-
Japan	(Y)	171.394	+0.923	294 - 495	171.500	170.730	170.669	5.1	169.179	5.2	162.764	5.0	132.8
Malaysia	(M$)	3.8816	+0.0048	805 - 830	3.8827	3.8775	-	-	-	-	-	-	-
New Zealand	(NZ$)	2.2720	+0.001	708 - 733	2.2784	2.2705	2.277	-2.8	2.2864	-2.5	2.3203	-2.1	108.3
Philippines	(Peso)	40.7478	+0.0105	842 - 114	40.8485	40.7417	-	-	-	-	-	-	-
Saudi Arabia	(SR)	5.8364	+0.0015	347 - 380	5.8431	5.8290	-	-	-	-	-	-	-
Singapore	(S$)	2.1976	+0.0024	963 - 989	2.1989	2.1933	-	-	-	-	-	-	-
South Africa	(R)	6.7368	+0.0017	335 - 443	6.7445	6.7327	-	-	-	-	-	-	-
South Korea	(Won)	1264.66	+4.78	424 - 512	1265.29	1260.45	-	-	-	-	-	-	-
Taiwan	(T$)	42.7412	-0.0391	269 - 555	42.8232	42.6698	-	-	-	-	-	-	-
Thailand	(Bt)	39.5107	+0.0179	882 - 351	39.5530	39.4620	-	-	-	-	-	-	-

† Rates for Jul 1. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. Bid, Offer and Mid-rates in both this and the Dollar Spot tables derived from THE WM/REUTERS CLOSING SPOT RATES. Some values are rounded by the F.T.

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Jul 2		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	Day's mid low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	J.P. Morgan index
Europe													
Austria	(Sch)	10.7461	+0.0244	440 - 481	10.7640	10.7210	10.7266	2.2	10.6846	2.3	10.5011	2.3	104.6
Belgium	(BFr)	31.4310	+0.0725	120 - 500	31.5500	31.3310	31.378	2.1	31.261	2.2	30.721	2.3	106.1
Denmark	(DKr)	5.8825	+0.0125	810 - 840	5.8895	5.8685	5.875	1.5	5.858	1.7	5.769	1.9	106.6
Finland	(FM)	4.6773	+0.0282	742 - 803	4.6805	4.6442	4.6708	1.7	4.6586	1.6	4.6133	1.4	82.9
France	(FFr)	5.1655	+0.0098	615 - 691	5.1690	5.1502	5.1554	1.6	5.1411	1.6	5.0733	1.7	108.5
Germany	(DM)	1.5270	+0.0035	267 - 272	1.5295	1.5220	1.5245	2.0	1.5187	2.2	1.4905	2.4	107.5
Greece	(Dr)	240.010	-0.02	960 - 070	240.280	239.430	241.885	-8.4	245.035	-8.4	259.01	-7.9	67.2
Ireland	(I£)	1.5974	-0.0019	964 - 984	1.6001	1.5952	1.5979	-0.4	1.5988	-0.4	1.5903	0.4	-
Italy	(L)	1537.20	+2.05	670 - 770	1537.73	1531.35	1541.35	-3.2	1550.1	-3.4	1572.85	-2.3	76.3
Luxembourg	(LFr)	31.4310	+0.0725	120 - 500	31.5500	31.3310	31.378	2.0	31.2715	2.0	30.791	2.0	106.1
Netherlands	(Fl)	1.7130	+0.0043	125 - 134	1.7198	1.7078	1.7097	2.3	1.7026	2.4	1.6706	2.5	106.0
Norway	(NKr)	6.5136	+0.0125	096 - 176	6.5175	6.4963	6.5107	0.5	6.5051	0.5	6.4686	0.7	97.9
Portugal	(Es)	156.950	+0.28	900 - 000	157.020	156.650	157.285	-2.4	157.855	-2.3	160	-1.9	94.6
Spain	(Pta)	128.325	+0.145	280 - 370	128.600	128.140	128.575	-2.3	129.005	-2.1	130.545	-1.7	80.2
Sweden	(SKr)	6.7012	+0.0557	962 - 062	6.7070	6.6419	6.7123	-2.0	6.7297	-1.7	6.7717	-1.1	86.7
Switzerland	(SFr)	1.2523	+0.0033	518 - 527	1.2530	1.2500	1.2488	3.4	1.2413	3.5	1.2078	3.5	110.5
UK	(£)	1.5562	+0.0004	558 - 565	1.5580	1.5541	1.5558	0.3	1.5555	0.2	1.5587	0.0	86.1
Ecu	-	1.2412	-0.0032	408 - 415	1.2448	1.2405	1.242	-0.7	1.2436	-0.8	1.2525	-0.9	-
SDR†	-	0.69260	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	0.9986	-	985 - 987	1.0001	0.9984	-	-	-	-	-	-	-
Brazil	(R$)	1.0052	+0.0012	050 - 053	1.0053	1.0042	-	-	-	-	-	-	-
Canada	(C$)	1.3637	+0.001	634 - 639	1.3641	1.3631	1.3635	0.1	1.3638	0.0	1.3666	-0.2	83.9
Mexico	(New Peso)	7.5865	-0.033	840 - 890	7.5900	7.5830	7.746	-25.5	7.933	-18.3	8.9965	-27.8	-
USA	($)	-	-	-	-	-	-	-	-	-	-	-	98.0
Pacific/Middle East/Africa													
Australia	(A$)	1.2775	+0.0077	771 - 780	1.2787	1.2756	1.2795	-1.9	1.283	-1.7	1.3017	-1.9	94.6
Hong Kong	(HK$)	7.7405	+0.0002	405 - 410	7.7410	7.7403	7.7433	-0.1	7.7433	-0.1	7.7703	-0.4	-
India	(Rs)	34.9300	+0.05	600 - 200	35.1500	34.7450	35.1	-5.8	35.405	-5.2	36.875	-5.5	-
Israel	(Shk)	3.2141	+0.0093	111 - 171	3.2171	3.1980	-	-	-	-	-	-	-
Japan	(Y)	110.140	+0.565	100 - 180	110.210	109.570	109.665	4.8	108.765	4.8	105.005	4.6	133.9
Malaysia	(M$)	2.4943	+0.0025	938 - 947	2.4950	2.4920	2.4954	-0.4	2.5015	-1.1	2.525	-1.2	-
New Zealand	(NZ$)	1.4599	+0.0003	594 - 605	1.4616	1.4585	1.463	-2.5	1.4688	-2.4	1.4934	-2.3	-
Philippines	(Peso)	26.1850	-	500 - 200	26.2200	26.1500	-	-	-	-	-	-	-
Saudi Arabia	(SR)	3.7505	-	503 - 507	3.7508	3.7502	3.751	-0.1	3.7517	-0.1	3.755	-0.1	-
Singapore	(S$)	1.4122	+0.0012	117 - 127	1.4128	1.4116	1.4086	3.0	1.4026	2.7	1.3772	2.5	-
South Africa	(R)	4.3305	-	280 - 330	4.3335	4.3260	4.378	-13.2	4.468	-12.7	4.8055	-11.0	-
South Korea	(Won)	812.700	+2.85	600 - 800	813.500	811.800	-	-	-	-	-	-	-
Taiwan	(T$)	27.4660	-0.045	630 - 690	27.4880	27.4450	27.471	-0.2	27.476	-0.1	-	-	-
Thailand	(Bt)	25.3900	+0.005	800 - 000	25.4005	25.3790	25.4887	-4.7	25.6925	-4.8	26.575	-4.7	-

† SDR rate per $ for Jul 1. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices Jul 1: Base average 1990=100.

WORLD INTEREST RATES

MONEY RATES

July 2	Over night	One month	Three mths	Six mths	One year	Lomb. inter.	Dis. rate	Repo rate
Belgium	3¼	3¼	3⅜	3⅜	3½	7.00	2.50	-
week ago	3¼	3¼	3⅜	3⅜	3½	7.00	2.50	-
France	3¾	3⅞	3⅞	4	4¼	3.60	-	5.60
week ago	3⅞	3⅞	3⅞	3¾	4½	3.60	-	5.60
Germany	3¼	3¼	3⅜	3⅜	3⅞	4.50	2.50	3.30
week ago	3⅜	3⅜	3⅜	3⅜	3¾	4.50	2.50	3.30
Ireland	5⅜	5⅜	5½	5⅝	5¾	-	-	6.25
week ago	5⅝	5⅜	5⅝	5¼	5⅝	-	-	6.25
Italy	9⅞	8⅝	8⅝	8⅝	8⅝	-	9.00	9.30
week ago	9	8⅞	8⅝	8⅝	8⅞	-	9.00	9.30
Netherlands	2⅝	2⅝	2⅝	2⅝	3	-	3.00	3.30
week ago	2⅝	2⅝	2⅝	2⅝	3	-	3.00	3.30
Switzerland	2⅜	2¼	2⅜	2⅝	2¾	5.00	1.50	-
week ago	2⅜	2¼	2⅜	2⅝	2¾	5.00	1.50	-
US	5⅜	5⅜	5½	5⅝	6	-	5.00	-
week ago	5⅜	5⅜	5⅝	5¾	6⅛	-	5.00	-
Japan	½	½	½	⅝	1	-	0.50	-
week ago	½	½	½	⅝	1⅛	-	0.50	-
■ $ LIBOR FT London Interbank Fixing	-	5⅜	5⅝	5¾	6⅛	-	-	-
week ago	-	5⅜	5⅝	5¾	6⅛	-	-	-
US Dollar CDs	-	5.24	5.32	5.43	5.72	-	-	-
week ago	-	5.24	5.28	5.48	5.82	-	-	-
ECU Linked Ds	-	4⅜	4⅜	4⅜	4⅜	-	-	-
week ago	-	4⅜	4⅜	4⅜	4⅝	-	-	-
SDR Linked Ds	-	3⅞	3⅞	4	4	-	-	-
week ago	-	3⅞	3⅞	3⅞	3⅞	-	-	-

$ LIBOR interbank fixing rates are offered rates for $10m quoted to the market by four reference banks at 11am each working day. The banks are: Bankers Trust, Bank of Tokyo, Barclays and National Westminster.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

■ OTHER CURRENCIES

Jul 2	£	$
Czech Kr	42.6550 - 42.9454	27.5710 - 27.5910
Hungary	233.799 - 233.942	150.250 - 150.300
Iran	4688.50 - 4697.40	3000.00 - 3000.00
Kuwait	0.4654 - 0.4670	0.2968 - 0.3000
Poland	4.2504 - 4.2555	2.7230 - 2.7340
Russia	7999.92 - 8058.18	5142.00 - 5145.00
UAE	5.7134 - 5.7168	3.6721 - 3.6727

EURO CURRENCY INTEREST RATES

Jul 2	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Danish Krone	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
D-Mark	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dutch Guilder	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
French Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Portuguese Esc.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spanish Peseta	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sterling	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Swiss Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Can. Dollar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
US Dollar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Italian Lira	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Yen	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Asian $Sing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Short term rates are call for the US Dollar and Yen, others: two days' notice

■ THREE MONTH PIBOR FUTURES (MATIF) Paris interbank offered rate (FFr 5m)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	96.00	96.01	+0.01	96.02	95.98	2,800	68,462
Dec	95.83	95.83	-	95.86	95.81	6,530	44,213
Mar	95.58	95.60	+0.01	95.62	95.57	2,678	34,357

■ THREE MONTH EUROMARK FUTURES (LIFFE) DM1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	96.56	96.53	-0.03	96.57	96.52	21507	196057
Dec	96.35	96.31	-0.04	96.36	96.29	29463	203861
Mar	96.05	95.98	-0.06	96.05	95.96	30170	191290
Jun	95.69	95.59	-0.08	95.69	95.55	15357	111031

■ THREE MONTH EUROLIRA FUTURES (LIFFE) L1000m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	91.88	91.85	-	91.91	91.85	9296	60162
Dec	92.29	92.23	-0.02	92.30	92.22	4414	35796
Mar	92.39	92.32	-0.02	92.38	92.32	2389	29456
Jun	92.29	92.23	-0.02	92.29	92.24	941	10828

■ THREE MONTH EURO SWISS FRANC FUTURES (LIFFE) SFr1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	97.42	97.38	-0.05	97.42	97.36	4472	35702
Dec	97.22	97.20	-0.04	97.22	97.18	2694	20019
Mar	96.99	96.97	-0.04	96.99	96.97	1021	8189
Jun	96.71	96.69	-0.04	96.71	96.69	405	839

■ THREE MONTH EUROYEN FUTURES (LIFFE) Y100m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	99.18	99.18	-0.04	99.18	99.18	50	n/a
Dec	98.83	98.82	-0.06	98.83	98.82	900	n/a
Mar	98.52	98.51	-0.06	98.52	98.52	130	n/a

■ THREE MONTH ECU FUTURES (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	95.60	95.57	-0.03	95.60	95.56	430	7309
Dec	95.45	95.41	-0.04	95.45	95.40	277	4818
Mar	95.22	95.16	-0.05	95.22	95.18	135	3012
Jun	94.89	94.87	-0.05	94.91	94.87	72	2374

* LIFFE futures also traded on APT

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

Jul 2		BFr	DKr	FFr	DM	I£	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
Belgium	(BFr)	100	18.72	16.42	4.858	1.991	4891	5.451	20.73	499.3	408.3	21.32	3.985	2.045	4.339	3.181	350.4	2.564
Denmark	(DKr)	53.43	10	8.775	2.596	1.064	2613	2.912	11.08	266.8	218.2	11.39	2.129	1.092	2.318	1.700	187.2	1.370
France	(FFr)	60.89	11.40	10	2.958	1.212	2978	3.319	12.62	304.0	248.6	12.98	2.426	1.245	2.642	1.937	213.4	1.561
Germany	(DM)	20.59	3.853	3.381	1	0.410	1007	1.122	4.268	102.8	84.06	4.390	0.820	0.421	0.893	0.655	72.14	0.528
Ireland	(I£)	50.22	9.398	8.247	2.439	1	2455	2.737	10.41	250.7	205.0	10.71	2.001	1.027	2.179	1.598	176.0	1.287
Italy	(L)	2.045	0.383	0.336	0.099	0.041	100	0.111	0.424	10.21	8.349	0.436	0.081	0.042	0.089	0.065	7.166	0.052
Netherlands	(Fl)	18.35	3.434	3.013	0.891	0.365	897.2	1	3.803	91.60	74.91	3.912	0.731	0.375	0.796	0.584	64.29	0.470
Norway	(NKr)	48.23	9.028	7.922	2.343	0.961	2359	2.629	10	240.8	196.9	10.29	1.922	0.986	2.093	1.535	169.0	1.237
Portugal	(Es)	20.03	3.749	3.290	0.973	0.399	979.5	1.092	4.152	100	81.78	4.271	0.798	0.410	0.869	0.637	70.19	0.514
Spain	(Pta)	24.49	4.584	4.023	1.190	0.488	1198	1.335	5.078	122.3	100	5.223	0.976	0.501	1.063	0.779	85.83	0.628
Sweden	(SKr)	46.89	8.777	7.702	2.278	0.934	2293	2.556	9.722	234.1	191.5	10	1.869	0.959	2.035	1.492	164.3	1.202
Switzerland	(SFr)	25.09	4.697	4.122	1.219	0.500	1227	1.368	5.203	125.3	102.5	5.351	1	0.513	1.089	0.799	87.94	0.643
UK	(£)	48.91	9.154	8.033	2.376	0.974	2392	2.666	10.14	244.2	199.7	10.43	1.949	1	2.122	1.556	171.4	1.254
Canada	(C$)	23.05	4.314	3.786	1.120	0.459	1127	1.256	4.779	115.1	94.11	4.915	0.918	0.471	1	0.733	80.77	0.591
US	($)	31.43	5.883	5.163	1.527	0.626	1537	1.713	6.517	156.9	128.3	6.703	1.253	0.643	1.364	1	110.1	0.806
Japan	(Y)	28.54	5.341	4.687	1.386	0.568	1396	1.555	5.916	142.5	116.5	6.085	1.137	0.583	1.238	0.908	100.	0.732
Ecu		39.00	7.300	6.406	1.895	0.777	1907	2.126	8.086	194.7	159.3	8.317	1.554	0.797	1.692	1.241	136.7	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ D-MARK FUTURES (IMM) DM 125,000 per DM

	Open	Latest	Change	High	Low	Est. vol	Open int.
Sep	0.6591	0.6575	-0.0019	0.6594	0.6574	8,223	53,648
Dec	0.6617	0.6615	-0.0017	0.6617	0.6615	9	1,939
Mar	-	0.6673	-	-	-	265	288

■ JAPANESE YEN FUTURES (IMM) Yen 12.5 per Yen 100

	Open	Latest	Change	High	Low	Est. vol	Open int.
Sep	0.9226	0.9180	-0.0042	0.9227	0.9175	7,549	72,327
Dec	0.9306	0.9291	-0.0048	0.9306	0.9291	27	3,883
Mar	-	0.9456	-	-	-	7	136

■ SWISS FRANC FUTURES (IMM) SFr 125,000 per SFr

	Open	Latest	Change	High	Low	Est. vol	Open int.
Sep	0.8043	0.8032	-0.0018	0.8045	0.8025	6,798	35,730
Dec	0.8108	0.8098	-0.0015	0.8108	0.8098	7	1,186
Mar	-	0.8179	-	-	-	9	58

■ STERLING FUTURES (IMM) £62,500 per £

	Open	Latest	Change	High	Low	Est. vol	Open int.
Sep	1.5594	1.5538	-0.0036	1.5594	1.5534	10,065	46,925
Dec	-	1.5550	-0.0030	-	1.5550	45	1,081
Mar	-	1.5550	-	-	1.5650	1	6

UK INTEREST RATES

LONDON MONEY RATES

Jul 2	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	5½ - 5⅝	5⅞ - 5$\frac{11}{16}$	5$\frac{23}{32}$ - 5$\frac{21}{32}$	5$\frac{13}{16}$ - 5$\frac{23}{32}$	5⅞ - 5¾	6$\frac{1}{16}$ - 5$\frac{29}{32}$
Sterling CDs	-	-	5¾ - 5$\frac{11}{16}$	5¾ - 5$\frac{11}{16}$	5¾ - 5$\frac{23}{32}$	5$\frac{31}{32}$ - 5$\frac{29}{32}$
Treasury Bills	-	-	5$\frac{19}{32}$ - 5$\frac{17}{32}$	5$\frac{9}{16}$ - 5½	-	-
Bank Bills	-	-	5$\frac{21}{32}$ - 5$\frac{19}{32}$	5$\frac{19}{32}$ - 5$\frac{17}{32}$	5$\frac{13}{16}$ - 5$\frac{17}{32}$	-
Local authority deps.	5$\frac{11}{16}$ - 5$\frac{19}{32}$	5$\frac{11}{16}$ - 5$\frac{11}{16}$	5$\frac{13}{16}$ - 5$\frac{11}{16}$	5$\frac{13}{16}$ - 5$\frac{23}{32}$	5$\frac{29}{32}$ - 5$\frac{11}{16}$	6$\frac{1}{16}$ - 6
Discount Market deps	5¾ - 5½	5¾ - 5⅝	-	-	-	-

UK clearing bank base lending rate 5¾ per cent from June 6, 1996

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	2½	5½	5	5	4½

Certs of Tax dep. under £100,000 is 2½pc. Deposits withdrawn for cash 1½pc.
Ave. tender rate of discount on Jun 21, 5.5857pc. ECGD fixed rate Stlg. Export Finance. Make up day Jun 28, 1996. Agreed rate for period Jul 24, 1996 to Aug 25, 1996, Scheme II & III 7.20pc. Reference rate for period Jun 1, 1996 to Jun 28, 1996, Scheme IV & V 5.865pc. Finance House Base Rate 6pc from Jul 1, 1996

■ THREE MONTH STERLING FUTURES (LIFFE) £500,000 points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	94.27	94.28	+0.02	94.29	94.27	14996	85071
Dec	94.10	94.12	+0.02	94.15	94.10	21853	83281
Mar	93.79	93.80	+0.03	93.83	93.78	12964	58129
Jun	93.31	93.34	+0.05	93.38	93.31	8222	42336
Sep	92.92	92.95	+0.05	92.98	92.92	2671	27959

Also traded on APT. All Open interest figs. are for previous day.

■ SHORT STERLING OPTIONS (LIFFE) £500,000 points of 100%

Strike Price	CALLS Sep	CALLS Dec	CALLS Mar	PUTS Sep	PUTS Dec	PUTS Mar
9425	0.12	0.14	0.15	0.09	0.27	0.60
9450	0.02	0.06	0.08	0.24	0.44	0.78
9475	0	0.02	0.04	0.47	0.65	0.99

Est. vol. total, Calls 2855 Puts 2572. Previous day's open int., Calls 117305 Puts 89124

EMS EUROPEAN CURRENCY UNIT RATES

Jul 2	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Spain	162.493	161.181	-0.086	-0.81	2.20	6
Ireland	0.792214	0.786273	-0.00034	-0.75	2.14	5
Netherlands	2.15214	2.15079	+0.00208	-0.06	1.44	0
Belgium	39.3960	39.4605	+0.0276	0.16	1.21	-1
Germany	1.91007	1.91733	+0.00135	0.38	0.99	-4
Austria	13.4383	13.4947	+0.0099	0.42	0.96	-3
Portugal	195.792	197.067	-0.054	0.65	0.72	-4
France	6.40608	6.48188	+0.00177	1.18	0.19	-10
Denmark	7.28580	7.38528	+0.00351	1.38	0.00	-9
NON ERM MEMBERS						
Greece	292.867	301.350	-0.564	2.90	-1.47	-
Italy	2106.15	1928.98	-3.6	-8.51	10.81	-
UK	0.786652	0.807102	-0.002024	2.60	-1.19	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate.
(17/9/92) Sterling and Italian Lira suspended from ERM. Adjustment calculated by the Financial Times.

■ PHILADELPHIA SE £/$ OPTIONS £31,250 (cents per pound)

Strike Price	CALLS Jul	CALLS Aug	CALLS Sep	PUTS Jul	PUTS Aug	PUTS Sep
1.520	3.77	3.93	4.12	0.04	0.15	0.37
1.530	2.79	3.09	3.35	0.07	0.31	0.59
1.540	1.93	2.39	2.64	0.16	0.58	0.88
1.550	1.14	1.73	2.08	0.31	0.90	1.26
1.560	0.54	1.19	1.55	0.66	1.35	1.74

Previous day's vol., Calls 3,120 Puts 2,883. Prev. day's open int., Calls 150,059 Puts 120,757

■ THREE MONTH EURODOLLAR (IMM) $1m points of 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Sep	94.25	94.24	-0.01	94.25	94.22	58,189	425,505
Dec	93.97	93.97	-0.01	93.97	93.94	115,299	430,488
Mar	93.85	93.83	-0.02	93.85	93.80	81,117	291,196

■ US TREASURY BILL FUTURES (IMM) $1m per 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Sep	94.76	94.76	-	94.77	94.75	181	6,463
Dec	94.58	94.57	-0.01	94.58	94.57	97	1,707
Mar	-	94.44	-	-	-	46	72

All Open interest figs. are for previous day

■ EUROMARK OPTIONS (LIFFE) DM1m points of 100%

Strike Price	CALLS Jul	CALLS Aug	CALLS Sep	CALLS Dec	PUTS Jul	PUTS Aug	PUTS Sep	PUTS Dec
9650	0.06	0.10	0.12	0.10	0.03	0.07	0.09	0.29
9675	0	0.02	0.03	0.04	0.22	0.24	0.25	0.48
9700	0	0	0.01	0.01	0.47	0.47	0.48	0.70

Est. vol. total, Calls 6688 Puts 9715. Previous day's open int., Calls 271865 Puts 303138

■ EURO SWISS FRANC OPTIONS (LIFFE) SFr 1m points of 100%

Strike Price	CALLS Sep	CALLS Dec	CALLS Mar	PUTS Sep	PUTS Dec	PUTS Mar
9750	0.09	0.12	0.12	0.21	0.42	0.65
9775	0.03	0.06	0.07	0.40	0.61	0.85

Est. vol. total, Calls 0 Puts 0. Previous day's open int., Calls 9165 Puts 4825

■ EUROLIRA OPTIONS (LIFFE) L1000m points of 100%

Strike Price	CALLS Sep	CALLS Dec	CALLS Mar	PUTS Sep	PUTS Dec	PUTS Mar
9175	0.28	0.67	0.84	0.18	0.19	0.27
9200	0.16	0.50	0.66	0.31	0.27	0.34
9225	0.08	0.36	0.51	0.48	0.38	0.44

Est. vol. total, Calls 165 Puts 1100. Previous day's open int., Calls 35849 Puts 18241

BASE LENDING RATES

	%
Adam & Company	5.75
Allied Trust Bank	5.75
AIB Bank	5.75
●Henry Ansbacher	5.75
Bank of Baroda	5.75
Banco Bilbao Vizcaya	5.75
Bank of Cyprus	5.75
Bank of Ireland	5.75
Bank of India	5.75
Bank of Scotland	5.75
Barclays Bank	5.75
Brit Bk of Mid East	5.75
●Brown Shipley & Co Ltd	5.75
Citibank NA	5.75
Clydesdale Bank	5.75
The Co-operative Bank	5.75
Coutts & Co.	5.75
Credit Lyonnais	5.75
Cyprus Popular Bank	5.75
Duncan Lawrie	5.75
Exeter Bank Limited	6.75
Financial & Gen Bank	7.00
●Robert Fleming & Co	5.75
Girobank	5.75
●Guinness Mahon	5.75
Habib Bank AG Zurich	5.75
●Hambros Bank	5.75
Heritable & Gen Inv Bk	5.75
●Hill Samuel	5.75
C. Hoare & Co	5.75
Hongkong & Shanghai	5.75
Julian Hodge Bank	5.75
●Leopold Joseph & Sons	5.75
Lloyds Bank	5.75
Meghraj Bank Ltd	5.75
Midland Bank	5.75
• Mount Credit Corp	6.00
NatWestminster	5.75
●Rea Brothers	5.75
Royal Bk of Scotland	5.75
●Singer & Friedlander	5.75
●Smith & Williamson Secs.	5.75
Scottish Widows Bank	5.75
TSB	5.75
United Bank of Kuwait	5.75
Unity Trust Bank Plc	5.75
Western Trust	5.75
Whiteaway Laidlaw	5.75
Yorkshire Bank	5.75

● Members of London Investment Banking Association
• In administration

COMMODITIES AND AGRICULTURE

Academics urge radical reform of UK farm ministry

By Alison Maitland

Modelling an independent UK food agency on the US Food and Drug Administration is not necessarily the answer to the problems highlighted by the beef crisis, according to four food policy specialists.

The opposition Labour party and the Consumers' Association have called for an independent body on the lines of the FDA to take over for food policy and regulation from the Ministry of Agriculture, Fisheries and Food.

There has been widespread criticism of the ministry for placing food producers' interests of above those of consumers, contributing to a crisis of confidence in food safety.

In a discussion paper published by the Centre for Food Policy at Thames Valley University, the academics say radical reform of the ministry is needed more than ever in the light of the BSE crisis.

But they say the proposal for a US-style agency fails to appreciate the differences in government between the US and the UK. The FDA is part of the executive branch of the government and is fully accountable to Congress. But independent agencies in the UK are typically quangos, which "take responsibilities off ministers' shoulders and insulate policy-making from parliamentary scrutiny," they say.

"The responsibility for food policy should rest fairly and squarely on the shoulders of government ministers and those ministers must be fully accountable to parliament. Food safety policy needs fewer quangos not more of them."

This is one issue on which the academics find common ground with Mr Douglas Hogg, UK agriculture minister. He said this week that there were "very considerable advantages in having a minister responsible for the entire food chain". He added: "A free-standing agency would have no clout because there would be no ministerial accountability".

The experts, who include Mr Tim Lang, professor of food policy at Thames Valley, seek to stimulate "an informed debate" by setting out five options for reform:

● Transferring responsibility for food quality and consumer protection to the Department of Health, leaving a truncated MAFF;

● Moving responsibility for food promotion and agricultural industries to the Department of Trade and Industry and creating a new food ministry. Both these options would offer stronger consumer protection, they say;

● Abolishing the ministry, dividing its responsibilities among other ministries. This, apparently less favoured, option could leave the UK with no ministry to negotiate on the Common Agricultural Policy and hamper a co-ordinated food policy;

● Retaining the ministry but radically reforming it, with a re-ordering of priorities to put food first;

● Finally, leaving the ministry untouched, but creating a separate food standards agency. This would have to be transparent and "not be subordinate to other agencies".

Modernising UK food policy. Centre for Food Policy, Thames Valley University, 32-38 Uxbridge Road, London W5 2BS. Tel: 0181 231 2065. Price: £5.50

Dutch allow more time for clean-up at zinc smelter

By Gordon Cramb in Amsterdam and Nikki Tait in Sydney

The Dutch authorities have agreed to give Pasminco of Australia more time before it has to halt dumping of poisonous jarosite waste at its Budel zinc smelter in the south of the country.

The decision comes as a further boost to the troubled A$1.1bn Century mine project in northern Queensland, owned by the Anglo-Australian RTZ-CRA. Pasminco is to take about half Century's output of so-called "clean concentrates", but delays in getting the mine on stream had threatened to bring it up against a deadline set under the Netherlands' environmental laws.

Earlier this year, Pasminco won an extension to the storage licence for jarosite - a calcium-containing hazardous waste - until July 1998. After mid-1998, production of jarosite at the smelter was due to cease, as Pasminco converted to the use of concentrates sourced from Century.

Development of the Century mine has been held up because of the failure of RTZ-CRA and local aboriginal groups, who have a native title claim over the mine site and surrounding area, to reach a settlement.

On Sunday, the mining group said it was satisfied that local communities were narrowly in favour of the scheme - although there still appears to be considerable division among aboriginal groups - and that it would continue with the project in the light of this.

Without such backing, it would have mothballed the plan, aimed at creating the world's biggest zinc mine. Other community leaders yesterday pledged to continue their fight against the project, however, and RTZ-CRA stressed that secure title to the land must be obtained by the end of September.

Yesterday, Mr David Stewart, Pasminco's chief executive, said his company had contacted the Dutch authorities and received support, in principle, for the jarosite extension. Pasminco will now make a formal application to extend the licence to July 1999. Century is seen as the only mine able to supply sufficient "clean concentrates".

Budel produces some 200,000 tonnes of zinc a year, about 8 per cent of world output. Its jarosite is at present stored in nearby ponds, but heavy metals have caused extensive ground contamination.

The Dutch environment ministry said yesterday it had agreed to a request by the North Brabant provincial government for a temporary waiver of pollution standards so it could continue to use concentrate from other mines. Mr Henk de Kruijf, an official at the provincial capital 's-Hertogenbosch said procedures had not yet been concluded but the extension was likely to be for two years - more generous than the one year the company had expected. Pasminco will not, however, be allowed to enlarge dumping capacity.

By the end of the year the first of the four ponds will be given a polyethylene base, and ground water is being pumped up and treated. But getting rid of the jarosite would require an investment of up to Fl 900m (US$530m), which Mr De Kruijf said was "not reasonable for this operation" and not yet in use elsewhere in the world.

In arranging the extension North Brabant aimed to secure the 600 jobs at Budel.

Mr Rob Borbidge, the Queensland state premier, said yesterday that legislation to "guarantee" Century's tenure would be introduced into the state parliament next week, although he also said that this would "acknowledge native title".

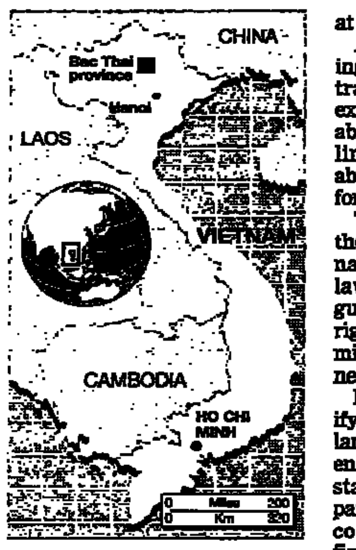
Lead/zinc ore puts Bac Thai on the map

The Vietnamese province is attracting increasing foreign interest, writes Jeremy Grant

With its steep limestone hills, dense jungle and rustic feel, Cho Don township in Vietnam's northern Bac Thai province seems an unlikely candidate for attracting foreigners with speculative dollars.

The population of 8,000, mostly ethnic minority Tay people, subsists on meagre earnings from farming and forestry. Dogs and chickens mingle on the dusty road that cuts through the town. It was not until January that Cho Don was connected to the national electricity grid.

Yet for one Australian-Canadian company, this is familiar ground. Golden Tiger Resources, a mining concern based in Perth, has spent the last two years surveying a rugged area known as Na Tum not far from Cho Don in hills 150km north of Hanoi, the capital.



The prize is access to one of Southeast Asia's largest, unexplored zinc and lead deposits, thought to rival in size those in neighbouring Thailand.

One of the big draws is that the area has already been mined by foreigners. French colonialists mined and shipped zinc ore back home from a site near Na Tum at the turn of the century. A thousand years earlier, the Chinese dug and worked the first mines in the area when it was under their control.

In the 30 years that followed the end of the Vietnam war in 1975, Vietnamese geologists mapped northern Vietnam and mineral-rich central provinces with Soviet and East European technological help. But lack of capital prevented the Hanoi government from taking things any further.

Ever since the government said in the early 1990s that it would open up mining to foreigners the data has been available to foreign companies, at a price.

About a dozen foreign mining companies - mostly Australian - have dipped into exploration. But none has been able to do much beyond preliminary surveying in the absence of a legal framework for foreign mining.

That may be changing, with the passage in March of Vietnam's long-awaited mining law. While it stops short of guaranteeing foreigners the right to mine what they find, mining experts say it is much-needed first step.

Indeed, if Vietnam can clarify aspects of the law - particularly whether foreigners must enter into joint ventures with state-owned Vietnamese companies - the next 12 months could see stalled projects finally moving ahead.

Encouraged by its preliminary findings, in March Golden Tiger started drilling on a grassy slope overlooking a green patchwork of rice paddies. Picking the site was easy: the hillside is littered with boulders, blackened by lead and zinc ore. "Just to see a little of this in Australia is enough to get you excited. These days, there are more geologists that walk up this hill than buffalo," says Mr Alan Peerless, Golden Tiger's project geologist.

When not supervising drilling operations, Mr Peerless uses a Russian military jeep to inspect potential sites elsewhere. Evenings are usually spent poring over rock samples and maps under naked light bulbs in a bare office, rented from the Cho Don people's committee.

But there are obstacles ahead. One of the problems facing any miner here is that although the hills contain significant amounts of ore, no one site has yet yielded commercially viable amounts. Padaeng of Thailand and a company under the Vietnamese ministry of defence are thought to be reaching the same conclusion on prospects adjacent to Golden Tiger's.

Golden Tiger has therefore suggested to both parties that all three forge a joint venture to create a bankable project, but a deal has yet to be struck.

In the meantime, the occasional sound of explosives in the surrounding hills is a reminder of the need to move fast, both with an agreement on joint activities and for Hanoi to clarify blurred areas of its recent mining law.

Local people eager to supplement their incomes are blasting the best ore out of the ground and selling it to traders who truck it to the Chinese border for sale. The trade is so blatant that many people in Cho Don openly display piles of ore they have collected in front of their wood and thatch homes.

A 29-year-old man who gives his name only as Dung explains how it works: "If the ore contains over 30 per cent, the trucks come and they pay us". This type of trade, known as "high grading", is a source of some concern to Golden Tiger.

Until the authorities find ways of curbing illegal mining, more and more of the best ore will be lost to the black market, making the area less attractive to foreign miners.

Vietnamese newspapers have recently reported efforts to stamp out illegal mining at gold mines in other parts of northern Vietnam, where illegal mining has reached "gold rush" proportions. But here is little evidence that much is being done in Cho Don; some speculate that the local authorities have a stake in the trade.

Vietnam may not yet feel entirely comfortable about foreign involvement in mining, but bringing in foreign expertise could be one way of ensuring that the Chinese are not, like a thousand years ago, the main beneficiaries of the country's northern mineral wealth. The question remains whether the incentive is there to make the change.

MARKET REPORT

Copper price gains trimmed

COPPER prices lost some of their morning gains at the London Metal Exchange yesterday afternoon as Sumitomo developments continued to dominate the market.

News that LME broker Rudolf Wolff had suspended three staff at its Tokyo operation as it conducted its own enquiry into the Sumitomo affair caused the market to wobble.

Prices had been bolstered by an impressive 9,325-tonne stock fall, as well as some constructive US economic data. The eventual decline came in relatively light volume.

"There is always the possibility of a 'Sumitomo shock', but after options [declarations] tomorrow the market could go to sleep for the rest of the week, as New York will be closed on Thursday and Friday [for Independence Day]", a trader said.

The three months price settled at $1,895 a tonne, still up $35 from Monday. The cash/three months premium widened to $40-$50.

Compiled from Reuters

LME WAREHOUSE STOCKS
(As at Thursday's close)
tonnes

Aluminium	+975	to 907,275
Aluminium alloy	+520	to 85,380
Copper	-9,325	to 253,300
Lead	+900	to 94,450
Nickel	+150	to 32,556
Zinc	-5,825	to 589,100
Tin	+45	to 10,270

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE
(Prices from Amalgamated Metal Trading)

■ ALUMINIUM, 99.7 PURITY ($ per tonne)

	Cash	3 mths
Close	1457-58	1494-94.5
Previous	1458-59	1496-97
High/low	1454/1453	1497/1490
AM Official	1453.5-54	1491-91.5
Kerb close		1495-96
Open int.	241,978	
Total daily turnover	31,083	

■ ALUMINIUM ALLOY ($ per tonne)

	Cash	3 mths
Close	1245-55	1260-90
Previous	1245-50	1280-85
High/low		1287/1283
AM Official	1245-50	1283-85
Kerb close		1285-90
Open int.	5,347	
Total daily turnover	484	

■ LEAD ($ per tonne)

	Cash	3 mths
Close	781-2	790.5-1
Previous	782-3	791-2
High/low		791/787
AM Official	777.5-8	787-7.5
Kerb close		790-1
Open int.	32,954	
Total daily turnover	5,231	

■ NICKEL ($ per tonne)

	Cash	3 mths
Close	7580-90	7690-700
Previous	7575-85	7690-700
High/low	7565	7725/7635
AM Official	7565-70	7675-80
Kerb close		7680-75
Open int.	42,088	
Total daily turnover	8,511	

■ TIN ($ per tonne)

	Cash	3 mths
Close	6360-70	6390-95
Previous	6290-300	6320-30
High/low		6415/6300
AM Official	6275-85	6315-20
Kerb close		6370-80
Open int.	15,887	
Total daily turnover	5,622	

■ ZINC, special high grade ($ per tonne)

	Cash	3 mths
Close	1003.5-4.5	1031-31.5
Previous	1003.5-4.5	1031-32
High/low		1032/1027
AM Official	1003-4	1030.5-31
Kerb close		1029-30
Open int.	67,909	
Total daily turnover	12,871	

■ COPPER, grade A ($ per tonne)

	Cash	3 mths
Close	1942-47	1903-05
Previous	1943-48	1910-15
High/low	1955/1936	1915/1870
AM Official	1935-36	1900-01
Kerb close		1892-95
Open int.	202,391	
Total daily turnover	50,065	

■ LME AM Official £/$ rate: 1.5557
LME Closing £/$ rate: 1.5580

Spot: 1.5587 3 mths: 1.5580 6 mths: 1.5583 9 mths: 1.5588

■ HIGH GRADE COPPER (COMEX)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	88.95	-0.50	90.80	88.80	1,340	5,534
Aug	88.55	-0.90	90.50	88.55	48	2,139
Sep	88.15	-0.10	90.00	86.50	7,690	20,006
Oct	88.15	-0.30	-	-	24	1,227
Nov	88.15	-0.30	-	-	11	1,089
Dec	87.85	-0.20	89.50	87.10	1,212	12,337
Total					10,813	57,889

PRECIOUS METALS

■ LONDON BULLION MARKET
(Prices supplied by N M Rothschild)

Gold(Troy oz)	$ price	£ equiv	SFr equiv
Close	381.60-381.90		
Opening	381.80-382.10		
Morning fix	381.75	245.31	477.91
Afternoon fix	381.95	245.39	477.82
Day's High	382.20-382.50		
Day's Low	381.60-381.90		
Previous close	381.80-382.30		

Loco Ldn Mean Gold Lending Rates (Vs US$)

1 month	4.00	6 months	3.84
2 months	3.99	12 months	3.80
3 months	3.95		

Silver Fix	p/troy oz.	US cts equiv.
Spot	325.55	506.75
3 months	329.65	512.95
6 months	333.70	519.50
1 year	342.05	532.85

Gold Coins	$ price	£ equiv.
Krugerrand	382.5-385.5	246-248
Maple Leaf	391.15-393.60	
New Sovereign	87-89	56-57

Precious Metals continued

■ GOLD COMEX (100 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	382.3	+1.0	-	-	18	24
Aug	383.3	+0.6	383.5	382.2	18,698	87,768
Oct	385.9	+0.6	386.0	385.1	221	7,438
Dec	388.5	+0.7	388.7	387.7	794	39,800
Feb	391.0	+0.7	390.8	390.0	35	8,435
Apr	393.4	+0.7	-	-	116	6,050
Total					20,323	195,928

■ PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	393.0	+0.2	393.0	392.0	522	1,328
Oct	396.0	-0.8	397.7	395.7	2,674	21,023
Jan	398.8	-0.8	400.0	399.5	338	2,256
Apr	401.6	-0.8	-	-	69	2,311
Jul	404.8	-0.8	-	-	9	42
Total					3,693	28,880

■ PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Sep	135.75	+0.05	135.90	135.00	464	6,794
Dec	136.75	+0.05	-	-	3	970
Mar	137.75	+0.05	-	-	-	12
Jun	138.80	+0.05	-	-	-	106
Total					467	7,882

■ SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	508.4	+3.4	507.0	502.0	674	1,797
Aug	508.3	+3.0	-	-	1	1
Sep	511.2	+3.0	512.0	507.0	11,666	59,258
Dec	519.2	+3.0	520.0	515.0	280	21,608
Mar	527.3	+3.1	-	-	6	6,373
May	532.8	+3.2	-	-	108	5,500
Total					12,840	101,088

ENERGY

■ CRUDE OIL NYMEX (1,000 barrels, $/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Aug	21.25	-0.28	21.51	21.15	34,166	94,276
Sep	20.38	-0.22	20.60	20.30	24,128	45,412
Oct	19.70	-0.16	19.88	19.61	4,952	33,085
Nov	19.23	-0.12	19.35	19.14	2,705	23,956
Dec	18.87	-0.13	18.95	18.79	8,992	30,030
Jan	18.64	-0.10	18.64	18.60	1,762	22,125
Total					78,502	372,187

■ CRUDE OIL IPE ($/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Aug	19.17	-0.30	19.40	18.17	13,071	47,224
Sep	18.76	-0.07	18.84	18.65	8,584	49,285
Oct	18.33	-0.04	18.38	18.22	2,457	21,351
Nov	17.95	-0.07	18.01	17.87	1,119	5,660
Dec	17.58	-0.15	17.68	17.58	1,458	12,950
Jan	17.40	-0.09	17.41	17.34	523	11,510
Total					na	na

■ HEATING OIL NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Aug	54.75	-0.39	55.35	54.65	12,904	32,851
Sep	55.05	-0.33	55.35	54.95	4,636	11,362
Oct	55.50	-0.18	55.60	55.30	1,368	5,926
Nov	55.70	-0.28	55.85	55.50	649	6,788
Dec	55.00	-0.28	55.10	55.80	2,750	18,521
Jan	56.10	-0.28	56.20	55.85	448	9,254
Total					23,886	98,003

■ GAS OIL IPE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	173.00	+1.25	173.50	170.50	6,053	16,856
Aug	169.75	-0.25	170.25	168.50	5,501	14,677
Sep	168.75	-0.50	169.00	167.75	2,098	8,167
Oct	168.25	-0.50	168.50	167.25	1,076	3,298
Nov	167.75	-0.50	168.00	166.75	156	1,778
Dec	167.50	-0.50	168.00	166.75	794	9,537
Total					16,179	59,885

■ NATURAL GAS NYMEX (10,000 mmBtu; $/mmBtu.)

	Latest price	Day's change	High	Low	Vol	Open int
Aug	2.775	+0.015	2.780	2.705	15,872	43,770
Sep	2.715	-0.001	2.730	2.670	4,986	22,270
Oct	2.680	-0.007	2.690	2.650	2,336	18,814
Nov	2.703	+0.003	2.710	2.670	1,693	12,353
Dec	2.735	-0.007	2.750	2.710	1,098	15,064
Jan	2.745	+0.003	2.745	2.710	672	11,408
Total					28,551	161,768

■ UNLEADED GASOLINE
NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Aug	61.05	-0.46	61.55	60.60	13,201	28,110
Sep	60.00	-0.33	60.40	59.80	4,657	9,308
Oct	57.70	-0.38	58.00	57.70	549	3,408
Nov	55.95	-0.48	56.30	55.95	233	1,550
Dec	55.00	-0.28	55.10	55.00	113	1,476
Jan	54.75	-0.03	54.75	54.75	86	588
Total					19,398	46,356

GRAINS AND OIL SEEDS

■ WHEAT LCE (£ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	110.25	-0.40	110.50	110.50	5	225
Sep	111.50	-0.50	111.90	111.90	5	416
Nov	113.50	-0.30	113.80	113.50	15	2,997
Jan	115.45	-0.20	115.75	115.50	75	1,047
Mar	117.40	-0.30	117.70	117.40	48	326
May	119.65	-0.05	119.70	119.70	5	152
Total					153	5,179

■ WHEAT CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	471.75	-12.00	481.00	471.00	5,798	7,806
Sep	475.50	-13.50	487.75	475.00	12,618	32,470
Dec	483.75	-11.75	495.00	483.00	12,560	28,232
Mar	482.75	-11.25	494.00	482.50	916	3,988
May	461.00	-	463.50	461.00	31	149
Jul	424.00	-6.00	427.00	424.00	136	1,831
Total					32,057	74,393

■ MAIZE CBT (5,000 bu min; cents/56lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	518.50	-20.00	539.50	518.00	14,911	16,379
Sep	405.50	-10.25	415.75	405.00	23,729	74,441
Dec	363.00	-8.00	371.00	362.50	59,775	174,810
Mar	368.25	-7.75	375.25	368.00	3,582	25,678
May	370.75	-7.25	374.00	370.50	521	4,860
Jul	369.25	-6.25	373.00	368.00	1,074	5,969
Total					164,781	308,282

■ BARLEY LCE (£ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Sep	104.25	-0.75	-	-	-	98
Nov	106.45	-0.20	106.65	106.50	58	744
Jan	108.65	-	108.75	108.65	7	189
Mar	109.90	-0.10	-	-	-	46
May	112.25	+0.25	-	-	-	7
Total					65	1,084

■ SOYABEANS CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	773.50	-8.75	779.00	773.50	7,252	9,102
Aug	771.25	-10	781.00	770.50	8,655	29,785
Sep	755.50	-8.75	761.00	755.00	1,737	10,885
Nov	743.00	-11.75	752.00	742.00	35,763	101,705
Jan	750.25	-10	758.50	750.00	330	7,902
Mar	757.00	-10.75	763.00	757.00	227	4,271
Total					54,646	172,618

■ SOYABEAN OIL CBT (60,000lbs; cents/lb)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	25.16	-0.2	25.25	25.13	8,057	5,120
Aug	25.30	-0.26	25.42	25.26	12,235	22,230
Sep	25.52	-0.28	25.62	25.45	2,463	12,173
Oct	25.67	-0.28	25.80	25.64	1,082	7,074
Dec	26.01	-0.29	26.17	25.97	7,264	28,278
Jan	26.13	-0.29	26.30	26.10	105	2,658
Total					31,269	81,695

■ SOYABEAN MEAL CBT (100 tons; $/ton)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	242.0	-3.4	245.7	241.0	4,851	12,450
Aug	240.1	-3.4	243.0	239.5	8,158	22,416
Sep	238.4	-3.4	240.7	238.3	2,283	10,349
Oct	234.8	-2.8	236.3	234.8	861	5,732
Dec	233.9	-3	236.0	233.5	7,907	25,146
Jan	234.1	-3.7	236.0	234.0	249	2,901
Total					24,297	82,386

■ POTATOES LCE (£/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Nov	85.0	-	-	-	-	-
Mar	110.0	-	-	-	-	-
Apr	119.3	+1.0	118.5	115.0	99	1,279
May	131.8	-	-	-	-	3
Jun	162.5	-	-	-	-	-
Total					99	1,282

■ FREIGHT (BIFFEX) LCE ($10/index point)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	1132	+12	1133	1125	102	1,971
Aug	1127	+7	1130	1120	67	325
Sep	1168	+18	1162	1155	15	25
Oct	1232	+7	1235	1232	8	1,448
Jan	1256	+11	1255	1250	6	265
Apr	1273	+23	-	-	-	115
Total					198	4,168

	Close	Prev
BFI	1178	1182

FUTURES DATA
All futures data supplied by CMS.

Minor Metals

European free market, from Metal Bulletin, $ per lb in warehouse, unless otherwise stated (last week's in brackets, where changed). **Antimony:** 99.6%, $ per tonne, 2,800-2,900. **Bismuth:** min. 99.99%, tonne lots 3.20-3.70. **Cadmium:** min. 99.95%, 85-95 (85-90) cents a pound. **Cobalt:** MB free market, 99.8%, 24.00-25.00 (25.30-26.00); 99.3%, 22.50-23.50 (23.50-24.30). **Mercury:** min. 99.99%, $ per 76 lb flask, 162-175. **Molybdenum:** drummed molybdic oxide, 3.35-3.55. **Selenium:** min 99.5%, 3.05-4.40 (3.15-4.35). **Tungsten ore:** standard min. 65%, $ per tonne unit (10kg) WO_3, cif, 52-62. **Vanadium:** min. 98%, cif, 3.00-3.10. **Uranium:** Nuexco exchange value, 15.00.

SOFTS

■ COCOA LCE (£/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	1039	+27	1044	1037	126	2,716
Sep	1058	+18	1065	1057	1,184	42,938
Dec	1044	+8	1052	1043	775	43,233
Mar	1048	+4	1057	1046	8,565	41,158
May	1058	+4	1066	1057	770	20,473
Jul	1067	+3	-	-	-	10,504
Total					18,942	175,942

■ COCOA CSCE (10 tonnes; $/tonnes)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	1391	-13	1403	1370	10	222
Sep	1423	-13	1433	1416	8,651	33,298
Dec	1450	-11	1456	1445	1,209	19,716
Mar	1472	-9	1476	1468	942	15,214
May	1485	-5	1485	1486	96	6,674
Jul	1496	+1	1496	1496	1	5,902
Total					10,910	88,552

■ COCOA (ICCO) (SDR's/tonne)

	Price	Prev. day
Jul 1		
Daily	1058.61	1058.30

■ COFFEE LCE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	1702	-29	1776	1701	671	2,698
Sep	1677	-49	1758	1675	5,483	13,144
Nov	1652	-47	1723	1650	531	4,421
Jan	1623	-40	1693	1625	149	2,701
Mar	1583	-35	1650	1600	69	1,068
May	1570	-43	1610	1603	40	78
Total					6,943	24,114

■ COFFEE 'C' CSCE (37,500lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	125.00	-1.50	126.50	123.75	303	1,244
Sep	117.85	-2.90	120.20	117.00	7,579	14,813
Dec	113.80	-3.10	115.80	113.10	929	5,085
Mar	111.50	-2.95	114.00	110.55	241	1,883
May	110.75	-2.90	110.75	110.75	104	399
Jul	110.05	-3.00	112.50	112.50	30	139
Total					9,283	23,416

■ COFFEE (ICO) (US cents/pound)

Jul 1		Prev. day
Comp. daily	107.17	108.80
15 day average	106.90	106.76

■ WHITE SUGAR LCE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Aug	381.5	+2.4	380.0	378.5	1,085	7,867
Oct	351.6	-0.8	353.0	351.0	584	7,926
Dec	337.8	-0.8	339.1	337.5	156	3,835
Mar	332.2	-	332.5	331.8	41	4,231
May	330.4	+0.2	330.5	330.0	26	2,221
Aug	328.9	+0.5	326.5	328.0	21	775
Total					1,915	27,422

■ SUGAR '11' CSCE (112,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	11.38	+0.06	11.42	11.22	8,026	69,862
Mar	11.05	+0.09	11.07	10.92	2,179	34,339
May	10.78	+0.04	10.79	10.66	698	13,487
Jul	10.52	+0.01	10.55	10.50	281	11,290
Oct	10.30	-0.04	10.34	10.30	85	5,045
Mar	10.16	-0.06	-	-	6	531
Total					11,389	134,679

■ COTTON NYCE (50,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	70.00	-0.30	70.95	70.15	103	537
Oct	72.37	+0.02	72.80	72.15	1,398	7,740
Dec	73.12	-0.16	73.80	73.00	6,325	33,344
Mar	74.43	-0.17	75.20	74.40	1,357	7,037
May	75.20	-0.40	75.90	75.15	461	5,066
Jul	75.87	-0.38	76.70	76.05	427	3,544
Total					10,262	66,892

■ ORANGE JUICE NYCE (15,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	125.25	+1.35	125.75	124.10	221	1,669
Sep	122.40	+1.40	123.25	121.20	663	10,873
Nov	118.80	+1.10	119.50	118.00	106	2,278
Jan	117.20	+1.05	117.25	116.80	227	3,785
Mar	118.70	+0.95	119.00	119.00	35	306
May	120.00	+0.75	120.00	120.00	10	193
Total					1,332	19,276

VOLUME DATA
Open interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears. Volume & Open interest totals are for all traded months.

INDICES

■ REUTERS (Base: 18/9/31=100)

Jul 2	Jul 1	month ago	year ago
2003.8	2009.4	2099.4	2272.7

■ CRB Futures (Base: 1967=100)

Jul 1	Jun 28	month ago	year ago
249.61	248.66	na	na

■ GSCI Spot (Base: 1970=100)

Jul 1	Jun 28	month ago	year ago
207.52	206.52	203.52	174.49

MEAT AND LIVESTOCK

■ LIVE CATTLE CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Aug	66.300	+0.575	66.475	65.450	7,759	38,994
Oct	68.200	+0.550	68.300	67.350	2,372	25,342
Dec	65.900	+0.425	65.950	65.375	4,358	12,122
Feb	64.325	+0.250	64.350	63.925	1,205	12,003
Apr	66.575	+0.150	66.600	66.250	570	3,975
Jun	65.425	+0.125	65.450	65.200	211	1,221
Total					15,398	91,627

■ LIVE HOGS CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Jul	57.325	+0.600	58.225	57.250	251	6,267
Aug	54.500	+1.475	54.525	54.300	336	11,606
Oct	51.325	+1.500	51.325	51.200	224	6,520
Dec	53.775	+1.000	54.275	53.700	88	6,776
Feb	76.500	+0.200	78.150	76.200	66	1,846
Apr	74.300	+0.600	74.600	74.000	24	491
Total					6,498	34,478

■ PORK BELLIES CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Jul	77.125	+2.000	77.125	77.125	94	2,511
Aug	74.300	+2.000	74.300	74.300	183	3,372
Feb	79.125	+2.000	79.125	79.125	21	951
Mar	81.425	+1.975	81.450	81.400	1	55
May	82.300	+1.100	83.200	82.300	1	56
Total					2,102	6,986

LONDON TRADED OPTIONS

Strike price $ tonne	Calls		Puts	
■ ALUMINIUM (99.7%) LME	Jul	Dec	Jul	Dec
1400	64	148	-	29
1500	-	87	36	66
1600	-	46	136	122
■ COPPER (Grade A) LME	Jul	Dec	Jul	Dec
1800	133	201	0	114
1900	34	152	1	163
2000	-	113	67	221
■ COFFEE LCE	Sep	Nov	Sep	Nov
1500	248	294	15	42
1550	209	258	32	58
1600	173	225	46	73
■ COCOA LCE	Sep	Dec	Sep	Dec
950	140	126	7	32
975	119	110	11	41
1000	99	95	16	51
■ BRENT CRUDE IPE	Aug	Sep	Aug	Sep
1850	90	-	8	-
1900	54	50	-	-
1950	26	-	-	-

LONDON SPOT MARKETS

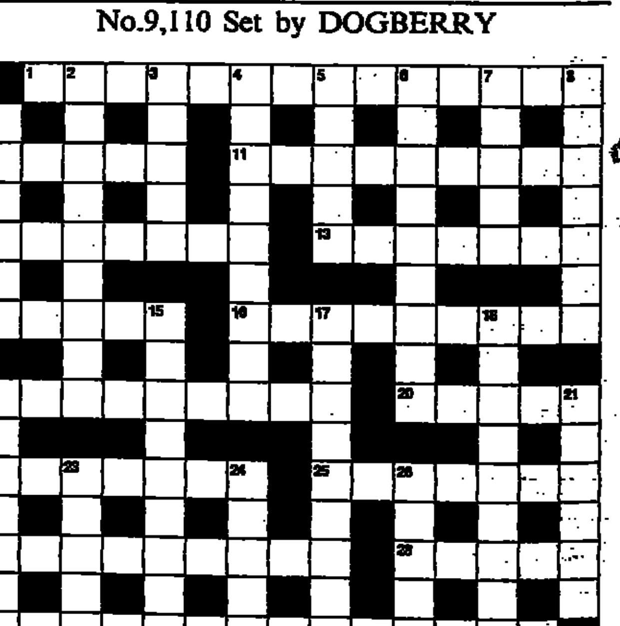
■ CRUDE OIL FOB (per barrel)		+or-
Dubai	$17.56-7.77	-0.155
Brent Blend (dated)	$19.46-9.51	-0.095
Brent Blend (Aug)	$19.24-9.26	-0.08
W.T.I.	$21.30-1.31x	-0.065
■ OIL PRODUCTS NWE prompt delivery CIF (tonne)		
Premium Gasoline	$206-208	+1.5
Gas Oil	$176-177	+1.5
Heavy Fuel Oil	$87-89	+3
Naphtha	$179-182	+1.5
Jet fuel	$197-198	-1.5
Diesel	$179-180	+1
■ NATURAL GAS (Pence/therm)		
Bacton (Aug)	12.50-13.00	+0.37
Petroleum Argus. Tel. London (0171) 359 8792		
■ OTHER		
Gold (per troy oz)♣	$381.75	-0.35
Silver (per troy oz)♣	508.50c	
Platinum (per troy oz.)	$391.40	-1.85
Palladium (per troy oz.)	$133.25	-0.50
Copper	95.0c	-2.0
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	15.41r	-0.11
Tin (New York)	294.50	-1.00
Cattle (live weight)	101.73p	+2.07*
Sheep (live weight)	111.52p	-1.13*
Pigs (live weight)†	122.93p	+5.47*
Lon. day sugar (raw)	$309.70	+4.20
Lon. day sugar (wte)	$389.00	-1.00
Barley (Eng. feed)	Unq	
Maize (US No3 Yellow)	Unq	
Wheat (US Dark North)	Unq	
Rubber (Aug)♥	95.50p	
Rubber (Sep)♥	95.50p	
Rubber (KL RSS No1)	360.00m	-4.00
Coconut Oil (Phil)§	830.0w	+10.0
Palm Oil (Malay.)§	$492.5z	-7.5
Copra (Phil)§	$536.0w	
Soyabeans (US)	214.0	+1.0
Cotton Outlook 'A' Index	79.65c	
Wooltops (64s Super)	434p	

£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. x Aug. w Jul/Aug. z Jul/Sep ♥ London Physical. § CIF Rotterdam. ♣ Bullion market close. * Change on week. †Based on 4,075 head of pigs sold.

JOTTER PAD

CROSSWORD

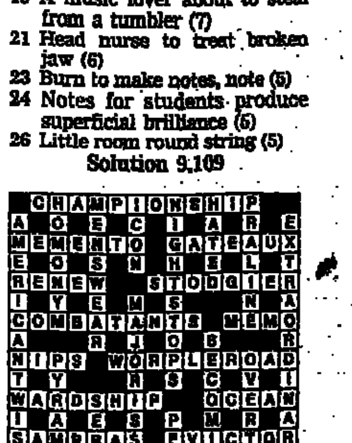
No.9,110 Set by DOGBERRY



ACROSS
1 Medic hanging grass in the Isle, so as to discomfit (14)
10 Article about expert's protective clothing (5)
11 Trade arrangement accepted by N. African umpire (9)
12 Motorists' clubs (7)
13 Colour's an active force in Morocco (7)
14 Mount many a member (5)
16 An alembic may reveal prejudice (9)
19 In pain, is sybarite returning to former state (9)
20 Or turning pale as ash? (5)
22 Wound again between jobs? (7)
25 Delight with tendency to lose head (7)
27 Musicians with a lot of stories of old plaything (9)
28 Lord of Belgian city (5)
29 Reliable source of therms to hothouse (3,6,5)

DOWN
2 Alternatively order it in compiler's dark state (9)
3 Musical heroine doing a pub turn makes early start (5)
4 Nero fiddled, clasping girl - one getting time off (9)
5 Sin City supplies turf to order (5)
6 Unconventional treatment for rare lurgi (9)
7 Force school to provide board (3,2)
8 Fuel rates, say, on a cart going up (7)
9 Finding a way into the ballpoint of the poet (6)
15 It's torture for graduates, taking girl to party (9)
17 Disabled, entering to sanctify the innocent (9)
18 Wise point admitted by amphibian paper-pusher (9)
19 A music lover about to steal from a tumbler (7)
21 Head nurse to treat broken jaw (6)
23 Burn to make notes, note (5)
24 Notes for students produce superficial brilliance (5)
26 Little room round string (5)

Solution 9,109



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OFFSHORE AND OVERSEAS

BERMUDA (SIB RECOGNISED)

Fidelity Currency Funds Ltd

BERMUDA (REGULATED)(**)

GUERNSEY (SIB RECOGNISED)

Lloyds Intl Money Market Fund Ltd

GUERNSEY (REGULATED)(**)

Rothschild Asset Mngmt - Contd.

Royal Bank of Canada Intl Money Market Fd

IRELAND (SIB RECOGNISED)

LGT Asset Management Ltd - Contd.

IRELAND (REGULATED)(**)

AIB Fund Management Ltd

AIG Asset Management Ltd

Argenta European Hedge Fund plc

Asia Dynamic Growth Fund Plc

Hamon Asset Management Ltd

Hanmi Korea Venture Fund

Hansard Europe Limited

Societe Generale Group

Stellar Fund Plc

Trainer Wortham & Company Inc

Ulster Bank Investment Services

ISLE OF MAN (SIB RECOGNISED)

ISLE OF MAN (REGULATED)(**)

JERSEY (SIB RECOGNISED)

Lloyds Bank (CI) U/T Mgrs.

Midland Bank Fund Managers (Jersey) Ltd

Newton Fund Mgrs (CI) Ltd (1200)F

JERSEY (REGULATED)(**)

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	Selling Price	Buying Price	+ or -	Yield Gross
Royal Bk of Scotland Fd Mngrs (Jersey) Ltd				
Ivory Growth Fund	£23.35	23.38xd	-0.1500	1.14
Lowes Aggressive Portfolio	£11.8	12.42	—	-
Lowes Defensive Pfolio	£12.09	12.73	—	-
Lowes Collective Pfolio Ltd	£11.33	11.89	—	-

For Schingauer Baird Cos see Hambros

	Selling Price	Buying Price	+ or -	Yield Gross
TSB Fund Managers (CI) Ltd				
TSB Island Pension	720.1	758.1	+2.3	-
Island Equity Acc	126.1	132.7	+0.8	-
WMB Asset Management (Jersey) Ltd				
[illegible]	5987.07	987.22xd	—	-
Worldinvest (Managers) Jersey Ltd				
Worldinvest Inc Fd †	$251.25	252.50xd	—	5.96
Excelle Global Eqty $ *	$82.50	82.92	-0.21	-
Excelle Stg Global Fund Inc*	£11.63	11.70xd	+0.01	4.97

Valued weekly * Mondays † Wednesdays

LUXEMBOURG (SIB RECOGNISED)

	Init Charge	Selling Price	Buying Price	+ or -	Yield Gr's
ABN AMRO Funds (u)					
4 Rue Jean Monet, L-2180 Luxembourg 352 4245484320					
Latin America Equity		$48.33	49.05	—	-
North America Equity		$75.14	75.52	—	-
Asian Tigers Equity		$82.39	82.85	—	-
[illegible]					

	Init Charge	Selling Price	Buying Price	+ or -	Yield Gr's
Elgistan Global SICAV (u)					
13 Rue Goethe, L-1637, Luxembourg 00 352 404646213					
Equity Portfolio Jan 27		$2.377		-0.027	-
Reserve Portfolio Jan 27		$2.031		+0.008	-
EquiFund-Wright National Eqty Fd (u) (x)					
14 rue Aldringen, L-1118 Lux 00 352 479 96500					
Australasian Nat.		A$16.83	15.99	—	-
Austrian Nat Equity		Sch67.84	68.53	—	-
Belgium/Lux Nat. Eqty		BFr743	751	—	-
French Nat Equity		FFr133.92	135.28	—	-
German Nat Equity		DM18.22	18.40	—	-
Dutch Nat Equity		Dfl38.31	38.69	—	-
Italian Nat Equity		L12340	12464	—	-
Japanese Nat Equity		Y1399	1413	—	-
Hong Kong Nat Equity		HK$117.32	118.60	—	-
Spanish Nat Equity		Pta1227	1239	—	-
UK Nat Equity		£10.23	10.33	—	-
United States Dlr Res		$10.65		—	-
Fidelity Funds (u)					
Kansallis Hse, Place de L'Etoile, L-1021 Lux BP 2174					
UK-01732 777377 Lux-00 352 2513511200					
Major Market Funds					
America		$2.265		+0.002	-
Europe		DM4.789		+0.018	-
International		$16.45		+0.02	-
Japan		Y146.5		—	-
Pacific		$9.387		-0.007	-
South East Asia		$2.627		+0.003	-
Country Select Funds					
ASEAN		$22.72		+0.08	-
Asian Special Situations		$11.07		+0.02	-
Australia		A$15.55		-0.06	-
Emerging Markets		$8.919		+0.004	-
European Sm Cos F		DM13.39		+0.06	-
France		FFr86.84		+0.06	-
Germany		DM20.42		+0.01	-
[illegible]					

LUXEMBOURG (REGULATED)(**)

[illegible]

OFFSHORE INSURANCES

[illegible]

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Old Mutual International - Contd.

	Selling Price	Buying Price	+ or -	Yield Gross
£ UFS Global Port	£1.389	1.494	—	—
£ YRA Worldwide	£1.483	1.595	—	—
$ YRA Dlr Worldwide	$1.549	1.666	—	—
Young & Co Bond P'folio	$1.309	1.408	—	—
Pioneer Med Term Agg	$1.078	1.159	—	—
Pioneer Long Term Cons	$1.116	1.200	—	—
Pioneer Long Term Agg	$0.958	1.030	—	—
$ Thomson Rayward Man	$1.190	1.280	—	—
Acorn International Manager	$0.960	1.033	—	—
Mercia Intl Lic Global Gth	DM93.0	100.0	—	—

PanEuroLife societe anonyme
36 Av Marie-Therese, Luxembourg 00 352 455730

	Selling Price	Buying Price	+ or -	Yield Gross
French Balanced Jun 30	FFr5828.72		+22.72	—
German/Benelux Jun 30	DM5038.04		-0.34	—
Global Equities Jun 30	$1383.70		+0.17	—
UK Secure Gth Jun 30	£698.30		+1.52	—
US Secure Growth Jun 30	$1165.74		+3.89	—
Intl Real Estate Jun 30	Ecu1381.11		-0.81	—
Fund of Funds Jun 30	Ecu1218.86		-3.58	—

Premier Life
1 rue Emile Bian, Luxembourg Tlx 2809 Tel 4080751

	Selling Price	Buying Price	+ or -	Yield Gross
Davenport Cautious £ Fd	£1.25	1.35	—	—
Matheson £ Pens	£1.10	1.16	—	—
Matheson $ Pens	$1.00	1.08	—	—
Argent Blend	£15.34		—	—
Argent Equity Gth	£24.63		—	—
OFS James Capel Mgd Gr £	£2.40		—	—
OFS James Capel Mgd Gr $	$2.02		—	—
OFS Aggressive $	$1.57		—	—
OFS Mngd Growth $	$2.03		—	—
OFS Dlr Balanced Port	$1.59		—	—
CH 10	SFr1.58	1.68	—	—
LX 10	$1.67	1.79	—	—

Professional Investment Consultants

	Selling Price	Buying Price	+ or -	Yield Gross
CM Inv Actively Managed £	£0.452	0.486	—	0
CM Inv Actively Managed $	$0.464	0.498	—	0

Alpha Fund Management Ltd - Contd.

	Selling Price	Buying Price	+ or -	Yield Gross
[illegible] May 31	$118.71		—	—
[illegible] May 31	$92.20		—	—
Delta Emerging Mkts May 31	$164.89		—	—
[illegible] May 31	$125.18		—	—
[illegible] May 31	$110.76		—	—
[illegible] May 31	$117.48		—	—
[illegible] May 31	$97.33		—	—
[illegible] May 31	$95.32		—	—
[illegible] May 31	$123.18		—	—
Saga International May 31	$120.37		—	—
[illegible] May 31	$121.48		—	—
[illegible] May 31	$719.11		—	—
India Performance May 31	$100.05		—	—

Aravis Capital Advisers LLC

	Selling Price	Buying Price	+ or -	Yield Gross
Aravis Clipper Ltd	$105.57		—	—

Arc Investment Company Ltd

	Selling Price	Buying Price	+ or -	Yield Gross
Rainbow	£501.82		—	—
Rainbow	SFr503.96		—	—

Aristocrat Capital Management Ltd

	Selling Price	Buying Price	+ or -	Yield Gross
Aristocrat Endeavour Fd	$20.23		—	—

Arnhold and S. Bleichroeder, Inc

	Selling Price	Buying Price	+ or -	Yield Gross
Aetos Corporation-Class A	$8902.00		—	—
[illegible]-Class A	$823.19		—	—
DEF Associates N.V. - Class A	$14491.24		—	—
First Eagle Fund N.V. - Class A	$34040.49		—	—
Global Beverage-Class A	$111.10		—	—

Asia Pacific Capital Strategies Fund

	Selling Price	Buying Price	+ or -	Yield Gross
NAV Jun 24	$8.71		—	—

Asia Pacific Securities Corp Ltd

	Selling Price	Buying Price	+ or -	Yield Gross
Indian Small Cos Fd Ltd Jun 21	$10.18		—	—

[illegible]

OTHER OFFSHORE FUNDS

[illegible]

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

BANKS, MERCHANT

BANKS, RETAIL

BREWERIES, PUBS & REST

BUILDING & CONSTRUCTION

BUILDING MATS. & MERCHANTS

CHEMICALS

CHEMICALS - Cont.

DISTRIBUTORS

DIVERSIFIED INDUSTRIALS

ELECTRICITY

ELECTRONIC & ELECTRICAL EQPT

ELECTRONIC & ELECTRICAL EQPT - Cont.

ENGINEERING

ENGINEERING - Cont.

ENGINEERING, VEHICLES

EXTRACTIVE INDUSTRIES

EXTRACTIVE INDUSTRIES - Cont.

FOOD PRODUCERS

FOOD PRODUCERS - Cont.

GAS DISTRIBUTION

HEALTH CARE

HOUSEHOLD GOODS

INSURANCE

INVESTMENT TRUSTS

INVESTMENT TRUSTS - Cont.

INV TRUSTS SPLIT CAPITAL

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

OTHER INVESTMENT TRUSTS

INVESTMENT COMPANIES

LEISURE & HOTELS

LEISURE & HOTELS - Cont.

LIFE ASSURANCE

MEDIA

OIL EXPLORATION & PRODUCTION

OIL, INTEGRATED

OTHER FINANCIAL

OTHER FINANCIAL - Cont.

PAPER, PACKAGING & PRINTING

PHARMACEUTICALS

PROPERTY

PROPERTY - Cont.

RETAILERS, FOOD

RETAILERS, GENERAL

RETAILERS, GENERAL - Cont.

SUPPORT SERVICES

SUPPORT SERVICES - Cont.

TELECOMMUNICATIONS

TEXTILES & APPAREL

TOBACCO

TRANSPORT

WATER

AIM

AIM - Cont.

AMERICANS

CANADIANS

SOUTH AFRICANS

	Notes	Price	+ or -	52 week high	52 week low	Mkt Cap£m	Yld Gr's	P/E
Anglo Am Ind		[illegible]		[illegible]	[illegible]	1,904	2.8	Φ
Barlow		[illegible]	[illegible]	[illegible]	[illegible]	1,349	2.0	-
Gold Flds Prop R.		[illegible]	-1	170	124	12.7	7.2	9.3
NK Props		75		[illegible]	75	[illegible]	12.6	-
SASOL		[illegible]	+3	710	475	3,970	1.7	-
SA Brews		[illegible]	[illegible]	[illegible]	[illegible]	5,540	2.0	Φ
Standard Bank	□	[illegible]	[illegible]	[illegible]	[illegible]	3,691	1.6	20.8
Tiger Oats	†	[illegible]	+5	1270	805	1,361	1.9	17.8
Tongaat-Hulett		[illegible]	-18	1247	710	779.1	2.3	Φ

GUIDE TO LONDON SHARE SERVICE

Prices for the London Share Service delivered by FT Extel, a member of the Financial Times Group.

Company classifications are based on those used for the FT-SE Actuaries Share Indices.

Closing mid-prices are shown in pence unless otherwise stated. Highs and lows are based on intra-day mid-prices over a rolling 52 week period.

Where stocks are denominated in currencies other than sterling, this is indicated after the name.

Symbols referring to dividend status appear in the notes column daily as a guide to yields and P/E ratios. Dividends and Dividend covers are published on Monday.

Market capitalisation shown is calculated separately for each line of stock quoted.

Earnings used in calculations are based on NMR 'Headline Earnings' formula.

Price/earnings ratios are based on latest annual reports and accounts and, where possible, are updated on interim figures.

Yields are based on mid-prices, are gross, adjusted for a dividend tax credit of 20 per cent and allow for value of declared distribution and rights

Estimated Net Asset Values (NAVs) are shown for Investment Trusts, in pence per share, along with the percentage discounts (Dis) or premiums (Pm -) to the current closing share price. The NAV basis assumes prior charges at par value, convertibles converted and warrants exercised if dilution occurs.

- □ Indicates the most actively traded stocks. This includes UK stocks where transactions and prices are published continuously through the Stock Exchange Automated Quotation system (SEAQ) and non-UK stocks through the SEAQ International system.
- ▪ Highs and lows marked thus have been adjusted to allow for capital changes
- † Interim since increased or resumed
- ‡ Interim since reduced, passed or deferred
- Φ Figures or report awaited
- ♥ Rule 2.1(a)(iv) Overseas incorporated companies listed on an approved exchange.
- ♣ Free annual/interim report available, see details below.
- ✦ USM; not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- †† Rule 4.2(a) Irish incorporated non-listed companies
- # Price at time of suspension
- ¶ Indicated dividend yield after pending scrip and/or rights issue.
- ♦ Merger bid or reorganisation in progress
- § Forecast dividend yield; p/e based on earnings updated by latest interim statement.
- ♠ Unregulated collective investment scheme.

a Yield based on annualised dividend
b Figures based on prospectus or other official estimates
g Assumed dividend yield after rights issue.
h Assumed dividend yield after scrip issue.
n Rights issue pending
q Earnings based on preliminary figures.
s Dividend yield excludes a special payment.
t Indicated dividend yield, p/e ratio based on latest annual earnings.
u Forecast, or estimated annualised dividend yield, p/e based on previous year's earnings
z Dividend yield includes a special payment

F Yield based on prospectus or other official estimates for 1996-97.
G Assumed yield after pending scrip and/or rights issue.
H Yield based on prospectus or other official estimates for 1995.
K Yield based on prospectus or other official estimates for 1996
L Estimated annualised yield, p/e based on latest annual earnings.
M Yield based on prospectus or other official estimates for 1995-96.
N Dividend is paid in whole or part as a

FID (Foreign Income Dividend)
R Forecast annualise yield, p/e based on prospectus or other official estimates.
W Pro forma figures.
Z Dividend yield to date.

Abbreviations:
xd ex dividend,
xc ex scrip issue.
xr ex rights:
xa ex all;
xc ex capital distribution.

This service is available to companies whose shares are regularly traded in the United Kingdom for a fee of £1350 a year for each security shown, subject to the Editor's discretion

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For readers phoning from outside UK, please dial +44 in place of the first 0.
The share prices printed on these pages are also available on the Internet at www.FT.com.

LONDON STOCK EXCHANGE

MARKET REPORT

Equities struggle to stay ahead on the day

By Steve Thompson, UK Stock Market Editor

Some worrying US economic data on home sales promoted a bout of profit-taking on Wall Street and unnerved a UK equity market anxious for more good news after the gains recorded during the previous two sessions.

Such was the worry in London about the home sales data, which hit the market just as the US Federal Reserve's Open Market Committee was meeting to discuss monetary policy, that the FT-SE 100 index eventually finished with only a miniscule gain, after promising much more earlier in the session.

The Footsie ended just 0.1 ahead at 3,725.7. Second-line issues spent the session chasing the leaders, but the FT-SE Mid 250 index still managed to outperform the leading index, finishing 5.8 firmer at 4,376.0.

The Mid 250's outperformance was said by dealers to have reflected a late burst of takeover speculation in some utilities stocks, notably East Midland Electricity, which raced up just before the close on talk of an imminent bid.

Specialists insisted that Southern Electric, which lost out in its attempt to take over Southern Water, was a much more likely takeover target. And there was no shortage of bid rumours in the water stocks, where Wessex and Thames Water continued to gain ground.

There was also keen takeover speculation in other areas of the market, with Yorkshire-Tyne Tees Television sharply higher amid talk that Granada was about to pounce.

The poor closing performance was in stark contrast to the bullish feeling around the market at the outset of trading. Wall Street's 75-point jump overnight, in spite of a marked reluctance by US Treasury bonds to move ahead, gave London's marketmakers every reason to lift their opening quotations.

The Footsie kicked off some 18 points higher but immediately ran into pockets of selling pressure that gradually eroded share prices. Talk around the City's dealing desks suggested that the market was not wholly convinced about the health of Mr Boris Yeltsin, who is campaigning for the presidency of Russia and whose potential defeat was seen as one of the more worrying international factors.

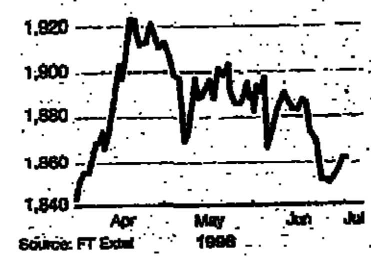
But it was the news on US home sales, which came in much higher than expected, that reminded London of the worries of an increase in US interest rates.

There was evidence that many more traders and fund managers were in the market yesterday and turnover was up sharply from recent levels. Tradepoint, the order-driven trading system, said that it had enjoyed its second-biggest turnover.

Volume at 6pm was 871.8m shares, a figure which included Argyll's buyback of 60m shares, or 5.2 per cent of its issued capital. The total was also enhanced by the placing by SBC Warburg of 40m shares in Jarvis Hotels.

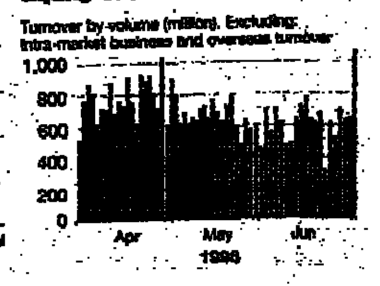
Senior dealers were split over the short term outlook for the market. One said that the prospects for big bids were shrinking with every day, as the election approached, while others maintained that the "feel-good factor" was increasingly evident.

FT-SE-A All-Share Index



Equity shares traded

Turnover by volume (million). Excluding: intra-market business and overseas turnover



Indices and ratios

FT-SE 100	3725.7	+0.1
FT-SE Mid 250	4376.0	+5.8
FT-SE-A 350	1878.8	+0.6
FT-SE-A All-Share	1863.54	+0.58
FT-SE-A All-Share yield	3.85	3.85
FT Ordinary index	2737.0	+0.2
FT-SE-A Non Fins p/e	16.85	16.86
FT-SE 100 Fut Jul	3717.0	-3.0
10 yr Gilt yield	7.91	7.91
Long gilt/equity yld ratio:	2.15	2.16

Best performing sectors

1. Breweries: Pubs & Rest .... +0.6
2. Banks: Retail .... +0.5
3. Engineering .... +0.5
4. Household Goods .... +0.5
5. Engineering : Vehicles .... +0.5

Worst performing sectors

1. Alcoholic Beverages .... -0.9
2. Leisure & Hotels .... -0.7
3. Tobacco .... -0.7
4. Diversified Inds .... -0.6
5. Distributors .... -0.6

Wimpey out of step

George Wimpey stood out in an otherwise bubbling housebuilding sector, sliding more than 7 per cent after a profits downgrade from SBC Warburg.

The broker, a long-term bear of the stock, was said to have cut back by £4m to £37m for this year and to have urged clients to switch into Barratt Developments.

Shares in Wimpey surrendered 12 to 147p in above average turnover of 2.9m, while Barratt edged ahead 2 to 264p.

The general run of housing stocks stayed on the upside, underpinned by a reiterated buy recommendation for Taylor Woodrow from Charterhouse Tilney and good results from South of England builder Berkeley.

Forecasts for house price growth range up to 6 per cent per annum for the next few years, and it is clear that the outlook for the builders' gross margins is greatly improved.

Also hovering in the background are persistent whispers about another imminent ¼ percentage point reduction for base rates.

Berkeley hardened 3 to 617p, Bryant Group put on 1½ at 125p and Redrow Group moved forward 1½ to 134p. Taylow Woodrow, seen as the one international stock in the sector, gained 5 at 165p in turnover of 1.4m shares.

Selected water stocks rose as news of a big stake sale by Southern, of the US, increased speculation about another bid in the sector.

Southern sold a 25 per cent stake in South Western Electricity to raise £121.5m. It has also sold the shares in National Grid which were allotted to SWEB. And while it still retains 75 per cent of SWEB, it has a cash pile which is earmarked for investment in the UK or Europe.

One obvious target, because of the geographical overlap with SWEB, would be Wessex Water, which was up 7½ earlier in the session before closing 4½ ahead at 354p.

However, Southern is quite capable of swallowing a bigger fish and Thames Water is also seen to be an eligible candidate, as is Southern Electric. Thames finished 8 stronger at 577p and Southern Electric 2 up at 721p.

Just before the close of dealing, East Midland Electricity – which published its report and accounts yesterday – jumped 14 to 543p.

Orange came off sharply, as investors shied away from the stock following its latest new subscriber numbers. These were said to compare flatly with recent figures from mobile phones rival Vodafone.

The shares turned in the day's worst Footsie performance, retreating 5½ to 219½p.

The figures tended to confirm the toughness of the UK marketplace, and the switching into Vodafone was said to reflect the latter's international operations where subscription growth remains rapid. Vodafone improved 3 to 245½p.

Not all brokers were disappointed with the Orange statement. "The group's subscriber growth remains on target, and its churn rate – subscriber withdrawals – is the lowest in the sector," said one leading telecoms analyst.

Securicor gained 4 to 279p for a two-day advance of 19 following a recent "undervalued" note from ABN Amro Hoare Govett. The broker described the stock as "cracking value".

Yorkshire-Tyne Tees Television jumped 75 to 1238p. The stock has been highlighted as a potential takeover target in the light of final approval for the Broadcasting Bill. Royal assent is expected at the end of the week and Granada is seen as the most likely aggressor.

Carlton is also reckoned to *be running its ready reckoner* over Yorkshire as well as showing some interest in HTV. Scottish Television has also been cited as easy prey. Scottish rose 8 to 649p but HTV was flat at 329p following a good run. Carlton slipped 3 to 511p and Granada 11 to 849p.

Zeneca continued its recent rise in early trading but fell later in response to a sell-off on Wall Street.

The early move reflected renewed takeover speculation and growing optimism about the drug maker's prospects. There was further support from Standard & Poor's, the US credit rating agency, which raised the senior debt rating of subsidiary Zeneca Wilmington to AA- from A+. S&P said the rating upgrades reflected significant improvements over the past three years in Zeneca's business risk and financial posture.

Previously Zeneca has been *seen as a target for Roche, of* Switzerland, but Glaxo Wellcome has been considered a plausible bidder. News that Zeneca's Arimidex anti-breast cancer drug was approved for use in Germany, Austria and Italy also buoyed sentiment. Zeneca lost 6 to 1434p. Glaxo closed 7 off at 862p.

Oil major BP improved 8 to 578½p in the wake of broker recommendations.

Argyll Group closed off 3 at 346p, after the company acquired 5.25 per cent of its capital at 346p a share. The buyback, which was carried out by BZW and Panmure Gordon, hoisted turnover to 122m shares. It was said to be in line with targets set by analysts in May when the plans were first announced.

HSBC moved ahead 15 to 1028p after HSBC James Capel upgraded its 1996 profits forecast by 7.2 per cent and its earnings per share estimate by *10.2 per cent. Capel also moved* its recommendation to buy from hold. The upgrade reflects a more positive outlook for margins and loan demand, especially in Hong Kong, the group's improving credit quality and continued control of costs.

Abbey National pushed 5 higher to 556p after Williams de Broë and Charterhouse Tilney responded to encouraging news about the housing market by recommending the shares in the banking group.

British Airways weakened as the regulatory spotlight was given additional focus by plans for UK-US and European Union probes into big airline link-ups. Shares in BA, which recently announced an alliance with American Airlines, shed 5 to 544p. The group announces June traffic figures today.

Rumours that the £2bn Nimrod contract could be decided later this week put some life into defence stocks.

British Aerospace, hot favourite to win the Ministry of Defence contract, closed all-square at 976p, with the shares said to be "consolidating" just below the £10 mark. But Rolls-Royce put on a penny at 227p and Cobham added 12 at 648p. Vickers gained 8 at 252p.

Leading brewers were firm, helped by whispers of good news to come from Bass, which is organising a two-day analysts' trip. Brokers will be taken round the group's pubs and leisure operations. The shares added 5½ at 823p.

Southnews, the newspaper group, gained 17 to 374p, signalling a break through a 12-month range. The company has had broker support since its *last set of final figures, when it revealed above average* advertising growth.

Speech software group Vocalis rose to 118p in first-day dealings. The shares were floated at 95p.

MARKET REPORTERS:
Peter John,
Jeffrey Brown.

FINANCIAL TIMES EQUITY INDICES

	Jul 2	Jul 1	Jun 28	Jun 27	Jun 26	Yr ago	*High	*Low
Ordinary Share	2737.0	2736.8	2729.7	2714.1	2720.7	2514.0	2885.2	2698.7
Ord. div. yield	4.08	4.08	4.09	4.11	4.10	4.24	4.12	3.76
P/E ratio net	16.16	16.16	16.12	16.04	16.07	15.71	17.25	15.96
P/E ratio nil	16.07	16.07	16.03	15.95	15.98	15.48	17.03	15.76

Ordinary Share index since compilation: high 2885.2 19/04/96; low 49.4 26/06/40. Base Date: 1/7/35.

Ordinary Share hourly changes

Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High	Low
2750.2	2750.0	2745.2	2745.0	2740.1	2741.6	2740.8	2742.2	2740.6	2750.2	2736.8

	Jul 2	Jul 1	Jun 28	Jun 27	Jun 26	Yr ago
SEAQ bargains	29,204	29,367	24,518	26,750	28,787	18,921
Equity turnover (£m)†	-	1196.4	1792.7	1977.1	1652.0	1306.3
Equity bargains†	-	32,211	29,799	31,742	32,756	26,620
Shares traded (ml)†	-	433.6	610.3	646.1	630.9	577.0

†Excluding intra-market business and overseas turnover.

	Jul 2	Jul 1	Jun 28	Jun 27	Jun 26	Yr ago	*High	*Low
FT-SE AIM	1077.30	1079.90	1079.80	1077.10	1091.40	-	1140.40	965.70

*For 1996.

■ **London market data**

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	562	Total Highs	66	Total contracts	43,406
Total Falls	504	Total Lows	37	Calls	14,726
Same	1,657			Puts	28,680

July 2 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

■ FT-SE 100 INDEX FUTURES (LIFFE) £25 per full index point (APT)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	3736.0	3717.0	-3.0	3737.0	3712.0	8961	59006
Dec	3752.0	3735.0	-6.0	3752.0	3745.0	80	1205

■ FT-SE MID 250 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Sep	-	4370.0	+6.0	-	-	0	3740

■ FT-SE 100 INDEX OPTION (LIFFE) (*3726) £10 per full index point

	3550 C	3550 P	3600 C	3600 P	3650 C	3650 P	3700 C	3700 P	3750 C	3750 P	3800 C	3800 P	3850 C	3850 P	3900 C	3900 P
Jul	176½	3	128½	6½	81	13	45	26½	19½	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Aug	176½	13½	134	22	98½	34	65½	53	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sep	193	27	155½	39	121	54½	90	79½	65½	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oct	208½	40½	171½	52	140	69½	108½	87½	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dec†			206	78½			146	116			[illegible]	[illegible]			[illegible]	[illegible]

Calls 4,310 Puts 9,300

■ EURO STYLE FT-SE 100 INDEX OPTION (LIFFE) £10 per full index point

	3525 C	3525 P	3575 C	3575 P	3625 C	3625 P	3675 C	3675 P	3725 C	3725 P	3775 C	3775 P	3825 C	3825 P	3875 C	3875 P
Jul	195	2½	147½	5½	102½	10	62½	19½	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Aug	198½	10	164	16½	114½	27	80	42	52½	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sep	211½	22	172	32	135½	44½	102½	61	73½	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dec	284½	60			197½	90½			140	130			[illegible]	[illegible]		
Mar†	306	90½			242	122½			185	[illegible]			[illegible]	[illegible]		

Calls 5,513 Puts 7,098 * Underlying index value. Premiums shown are based on settlement prices.
† Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt. cap (£m.)	1996 High	1996 Low	Stock	Close price p	+/-	Net div.	Div. cov.	Grs yld	P/E net
-	F.P.	3.70	55	43	Biocompatibles W	47		-	-	-	-
-	F.P.	-	11	8½	Carlisle Wrts	8½	-½	-	-	-	-
-	F.P.	106.1	221	208	City Technology	218		-	-	-	-
100	F.P.	43.1	136	111	†Fibernet Group	116	+2	-	-	-	-
-	F.P.	16,659	£37⅜	£34⅛	Elect Data Sys	£34⅛		-	-	-	-
60	F.P.	3.05	65	61	†Fielders	61	-2	-	-	-	-
-	F.P.	24.6	20	17	†Gold Mn Sardinia	19		-	-	-	-
-	F.P.	4.82	11	8	†Gold Sard Wrts	9		-	-	-	-
285	F.P.	40.3	297	255	†IES	265xd		20.6	-	0.3	-
-	F.P.	5.16	260	240	†IES Warrants	250		-	-	-	-
-	F.P.	17.9	96	65	†Independent Br H	70xd		-	-	-	-
100	F.P.	14.2	116	105	†Independent Ergy	108	-2	-	-	-	-
94	F.P.	19.0	88	80	†Intelligent Envs	85	+2	-	-	-	-
175	F.P.	-	193	172	Jarvis Hotels	174	+1	-	-	-	-
-	F.P.	31.4	133	121	Lands Improvemnt	121	-4	-	-	-	-
-	F.P.	2.51	125	110	†Matrix Hlthcare	110		-	-	-	-
172	F.P.	407.4	227	172	Pace Micro Tech	190		R2.4	2.4	1.6	31.5
70	F.P.	18.5	75	71	†SEA Multimedia	73		-	-	-	-
140	F.P.	20.3	167	164	†Sinclair M'trose	167		-	-	-	-
80	F.P.	5.62	90	88	†Solid State Sppl	90		-	-	-	-
225	F.P.	32.9	289	225	†Staffware	284	+2	-	-	-	-
-	F.P.	1,250	243	220	Sun Life & Prov	222	+1	-	-	-	-
118	F.P.	19.1	138	108	†Theo Fennell	118	-2	-	-	-	-
174	F.P.	17.5	178	154	Treats Group	156	+2	-	-	-	-
95	F.P.	37.9	123	113	Vocalis Group	118		-	-	-	-
84	F.P.	3.84	95	91	†Whitecross	93		-	-	-	-
-	F.P.	24.3	163	153	†Whittard of Chls	153	-3	-	-	-	-

† Alternative Investment Market. For a full explanation of all other symbols please refer to The London Share Service notes.

FT GOLD MINES INDEX

	Jul 1	% chg on day	Jun 28	Year ago	Gross div yield %	P/E ratio	52 week High	52 week Low
Gold Mines Index(32)	2022.37	+0.3	2016.68	1927.52	1.92	-	2628.73	1722.93
■ Regional indices								
Africa (13)	2678.58	+0.1	2676.19	2853.49	2.72	36.34	3553.86	2272.74
Australasia (7)	2387.61	-1.3	2419.62	2256.70	2.51	22.42	2927.34	2142.76
North America (12)	1786.39	+0.7	1773.85	1673.61	0.78	63.52	2186.39	1488.94

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FT - SE Actuaries Share Indices — The UK Series

	Jul 2	Day's chge%	Jul 1	Jun 28	Jun 27	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FT-SE 100	3725.7	----	3725.6	3711.0	3678.8	3349.2	4.07	2.14	14.37	80.61	1525.61
FT-SE Mid 250	4376.0	+0.1	4370.4	4353.2	4340.9	3619.2	3.41	1.72	21.30	110.60	1764.78
FT-SE Mid 250 ex Inv Trusts	4415.6	+0.1	4409.5	4391.7	4379.7	3624.9	3.50	1.76	20.27	116.24	1783.96
FT-SE-A 350	1878.8	----	1878.2	1870.9	1857.1	1658.5	3.92	2.06	15.49	48.11	1573.59
FT-SE-A 350 Higher Yield	1794.2	-0.1	1795.5	1791.9	1779.1	1663.6	5.27	1.92	12.34	54.46	1256.65
FT-SE-A 350 Lower Yield	1970.5	+0.1	1968.1	1957.0	1942.1	1654.6	2.71	2.30	20.13	38.08	1367.53
FT-SE SmallCap	2190.28	----	2189.64	2190.96	2193.97	1839.86	2.98	1.76	23.87	37.42	1801.90
FT-SE SmallCap ex Inv Trusts	2190.74	----	2189.92	2190.93	2194.71	1817.30	3.15	1.85	21.41	39.48	1813.87
FT-SE-A ALL-SHARE	1863.54	----	1862.96	1856.33	1843.91	1638.36	3.85	2.04	15.93	44.61	1585.05

■ **FT-SE Actuaries All-Share**

	Jul 2	Day's chge%	Jul 1	Jun 28	Jun 27	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 MINERAL EXTRACTION(24)	3510.20	+0.3	3499.53	3486.33	3466.09	2856.76	3.82	1.63	17.90	79.25	1512.40
12 Extractive Industries(6)	4286.54	-0.2	4294.49	4239.33	4233.18	3872.89	3.74	2.50	13.36	109.19	1261.39
15 Oil, Integrated(3)	3571.86	+0.4	3556.46	3547.60	3521.51	2845.56	4.01	1.72	18.10	81.84	1576.39
16 Oil Exploration & Prod(15)	2481.02	----	2482.01	2483.14	2486.06	2036.44	2.12	1.61	36.56	34.94	1494.28
20 GEN INDUSTRIALS(276)	2020.76	-0.1	2021.85	2015.89	2014.67	1926.63	4.25	1.89	15.56	45.71	1109.04
21 Building & Construction(34)	1195.02	-0.2	1197.36	1180.40	1163.50	935.79	3.46	1.67	21.60	21.62	1008.07
22 Building Matls & Merchs(28)	1874.18	-0.1	1876.56	1862.79	1857.06	1732.23	4.09	1.68	18.26	43.62	951.60
23 Chemicals(23)	2423.24	+0.2	2418.51	2415.48	2417.70	2392.56	4.12	1.96	15.48	59.45	1155.29
24 Diversified Industrials(15)	1572.44	-0.6	1581.52	1594.58	1590.47	1811.82	6.62	1.69	11.19	55.38	867.17
25 Electronic & Elect Equip(37)	2274.68	-0.4	2283.63	2253.20	2264.11	1983.70	3.26	1.69	22.71	17.87	1175.77
26 Engineering(71)	2447.90	+0.5	2436.53	2429.78	2427.97	1998.24	3.26	2.49	15.39	47.72	1494.38
27 Engineering, Vehicles(14)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
28 Paper, Pckg & Printing(28)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
29 Textiles & Apparel(19)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30 CONSUMER GOODS(92)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
32 Alcoholic Beverages(6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33 Food Producers(24)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
34 Household Goods(15)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
36 Health Care(20)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
37 Pharmaceuticals(15)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
38 Tobacco(1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40 SERVICES(254)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41 Distributors(31)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42 Leisure & Hotels(30)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
43 Media(46)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
44 Retailers, Food(14)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45 Retailers, General(44)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
47 Breweries, Pubs & Rest.(24)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
48 Support Services(40)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49 Transport(22)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60 UTILITIES(33)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
62 Electricity(11)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
64 Gas Distribution(2)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
66 Telecommunications(8)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
68 Water(12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
69 NON-FINANCIALS(680)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70 FINANCIALS(105)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
71 Banks, Retail(9)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
72 Banks, Merchant(6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
73 Insurance(25)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
74 Life Assurance(6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
77 Other Financial(21)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
79 Property(41)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
80 INVESTMENT TRUSTS(128)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
89 FT-SE-A ALL-SHARE(920)	1863.54	[illegible]	1862.96	1856.33	1843.91	1638.36	3.85	2.04	15.93	44.61	1585.05
FT-SE-A Fledgling	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FT-SE-A Fledgling ex Inv Trusts	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

■ **Hourly movements**

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FT-SE 100	3744.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FT-SE Mid 250	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FT-SE-A 350	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Time of FT-SE 100 Day's high: [illegible] Day's low: [illegible]. FT-SE 100 1996 High: [illegible] Low: [illegible]

■ **FT-SE Actuaries 350 Industry baskets**

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	Close	Previous	Change
Bldg & Cnstrcn	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pharmaceuticals	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Water	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Banks, Retail	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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TRADING VOLUME

■ **Major Stocks Yesterday**

	Vol. 000s	Closing price	Day's change
3i†	[illegible]	[illegible]	[illegible]
ASDA Group†	[illegible]	[illegible]	[illegible]
Abbey National†	[illegible]	[illegible]	[illegible]
Aircraft Fleet	[illegible]	[illegible]	[illegible]
Allied Domecq†	[illegible]	[illegible]	[illegible]
Anglian Water†	[illegible]	[illegible]	[illegible]
Argos†	[illegible]	[illegible]	[illegible]
Argyll Group†	[illegible]	[illegible]	[illegible]
Arjo Wiggins†	[illegible]	[illegible]	[illegible]
Assoc. Brit. Foods†	[illegible]	[illegible]	[illegible]
Assoc. Brit. Ports	[illegible]	[illegible]	[illegible]
BAA†	[illegible]	[illegible]	[illegible]
BAT Inds†	[illegible]	[illegible]	[illegible]
BBA	[illegible]	[illegible]	[illegible]
BICC	[illegible]	[illegible]	[illegible]
BOC†	[illegible]	[illegible]	[illegible]
BP†	[illegible]	[illegible]	[illegible]
BPB Inds	[illegible]	[illegible]	[illegible]
BSkyB†	90	442	[illegible]
BT†	6,000	343	+½
BTR†	6,000	248	-½
Bank of Scotland†	96	236	+1
Barclays†	3,000	705	
Bass†	2,800	823	+5½
Blue Circle†	172	361	
Booker	12	377	
Boots†	1,100	587	+3
Britannic	157	723	+4
Brit. Aerospace†	169	976	
British Airways†	3,100	544	-5
British Biotech	174	2385	+10
British Gas†	7,100	160½	
British Land	1,100	427	+1
British Steel†	800	168	+3
Bunzl	718	235	-2
Burmah Castrol†	411	1023	
Burton†	1,500	154½	-½
Cable & Wire†	4,900	418	-5
Cadbury Schweppes†	1,300	516½	+5½
Caradon	774	216	
Carlton Comms.†	547	511	-3
Chubb	1,900	334	+5
Coats Viyella	1,900	172	-1
Comm. Union†	936	584	-1
Compass	364	586	
Cookson†	1,500	281	-3
Courtaulds†	900	422	
Dalgety	631	351	-2
De La Rue	174	597	-2
Dixons†	1,100	525	-3
East Midland Elect.	500	543	+14
Electrocomps	434	393	-2
Eng China Clays	700	272	+1
Enterprise Oil†	994	490	-1
Eurotunnel Units	183	97	+1
FKI	900	172½	+2½
Foreign & Col. I.T.	300	158½	+1½
Gen. Accident†	518	656	-4
General Elect.†	1,400	351	-3
Glaxo Wellcome†	2,500	862	-7
Glynwed	826	325	+8
Granada†	1,500	849	-11
Grand Met.†	1,200	424	-4½
GUS†	420	666	+6
Greenalls	98	574	-2
GRE†	1,900	249	-5
GKN†	1,700	997	+9
Guinness†	1,700	468	-5
HSBC (75p shs)†	3,300	1028	+15
Hammerson	177	372	+5
Hanson†	3,800	175½	-1½
Harrisons Crosfield	3,200	136	-1
Hays	336	482	+2
Hillsdown	1,800	174	-1
Hyder	269	866	+9
IMI	183	358	+4½
ICI†	1,300	794	+3
Inchcape	1,000	292	-8
Johnson Matthey	76	623	-1
Kingfisher†	2,300	648	
Kwik Save	95	463	
Ladbroke†	2,600	182	+1
Land Securities†	1,100	630	-1
Laporte	905	695	+3
Legal & General†	476	669	-3
Lloyds Abbey	518	513	+3
Lloyds TSB†	9,000	322	+2
LASMO†	631	176	
London Elect	285	825	-1
Lonrho	935	186	
[illegible]	[illegible]	[illegible]	[illegible]

Based on trading volume for a selection of major securities dealt through the SEAQ system yesterday until 4.30pm. † Indicates an FT-SE 100 index constituent. ‡ Trades are rounded. Source: FT Extel.

WORLD STOCK MARKETS

EUROPE

PACIFIC

AFRICA

NORTH AMERICA

INDICES

US INDICES

Dow Jones	Jul 1	Jun 28	Jun 27	1996 High	1996 Low	Since compilation High	Since compilation Low
Industrials	5729.98	5654.63	5677.53	5778.00 (22/5)	5032.94 (10/1)	5778.00 (22/5/96)	41.22 (8/7/32)
Home Bonds	101.76	101.71	101.39	108.08 (14/2)	101.03 (8/5)	108.77 (18/10/93)	54.99 (1/10/81)
Transport	2215.44	2181.76	2180.19	2298.20 (22/5)	1882.71 (18/1)	2298.20 (22/5/96)	12.32 (8/7/32)
Utilities	220.65	220.30	215.90	234.90 (12/2)	205.42 (7/5)	268.48 (31/8/93)	10.50 (8/4/32)

DJ Ind. Day's high 5749.19 (5724.44) Low 5697.26 (5626.81) (Theoretical)
Day's high 5729.96 (5704.49) Low 5655.37 (5652.04) (Actual)

Standard and Poors	Jul 1	Jun 28	Jun 27	1996 High	1996 Low	Since compilation High	Since compilation Low
Composite‡	675.88	670.63	668.54	678.51 (24/5)	598.48 (10/1)	678.51 (24/5/96)	4.40 (1/6/32)
Industrials	802.23	796.36	794.96	807.98 (5/6)	702.07 (15/1)	807.98 (5/6/96)	3.62 (21/6/32)
Financial	68.13	67.33	67.23	68.66 (5/3)	58.57 (10/1)	68.66 (5/3/96)	8.64 (1/10/74)
NYSE Comp.	361.70	359.20	357.58	363.74 (24/5)	321.41 (10/1)	363.74 (24/5/96)	4.46 (25/4/42)
Amex Mkt Val	580.25	576.78	570.13	614.99 (22/5)	528.05 (18/1)	614.99 (22/5/96)	29.31 (9/12/72)
NASDAQ Cmp	1187.45	1185.02	1166.01	1249.14 (5/6)	988.57 (15/1)	1249.14 (5/6/96)	54.87 (31/10/72)

RATIOS

	Jun 28	Jun 21	Jun 14	Year ago
Dow Jones Ind. Div. Yield	2.19	2.17	2.19	2.44
	Jun 26	Jun 19	Jun 12	Year ago
S & P Ind. Div. yield	1.87	1.87	1.87	2.14
S & P Ind. P/E ratio	22.29	22.22	19.65	18.60

NEW YORK ACTIVE STOCKS

Monday	Stocks traded	Close price	Change on day
British Steel	7,934,800	25¾	+⅛
ADT	5,196,500	22¾	+3⅜
Glendale Fed	3,869,900	18½	+1⅛
Liberty Prop	3,848,500	19¾	-⅛
Motorola	2,740,800	64½	+1⅝
Halliburton	2,733,000	52¾	+3⅛
Coca Cola	2,899,700	38⅝	+⅛
Compaq	2,598,300	50	+⅛
Intl Paper	2,588,900	38⅝	+1⅛
IBM	2,428,600	101⅜	+2⅜

TRADING ACTIVITY

Volume (million)	Jul 1	Jun 28	Jun 27
New York SE	347.898	409.852	405.204
Amex	18.151	29.840	30.982
NASDAQ	514.149	640.662	577.334
NYSE			
Issues Traded	3,164	3,168	3,141
Rises	1,425	1,784	1,313
Falls	1,033	744	1,028
Unchanged	706	640	800
New Highs	76	135	49
New Lows	28	32	76

INDEX FUTURES

Prices supplied by Telekurs

NOTES - Prices on this page are as quoted on the individual exchanges and are mostly last traded prices. Highs/Lows are based on data from Jan 1 1996. ‡ Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all. † Priced in US $.

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TOKYO - MOST ACTIVE STOCKS: Tuesday, July 2, 1996

	Stocks Traded	Closing Prices	Change on day
Keisei Ele Ry	9.9m	1270	+20
Mitsui Fudosan	5.8m	1520	+30
Nichiei	5.2m	441	-71
Tokyu Land Corp	4.4m	599	+6
Sumitomo Prec	4.4m	1130	+40
Kanematsu Corp	3.7m	754	-21
Nippon Stl Corp	3.2m	369	-3
Mitsubishi Hvy	3.1m	956	+3
Towa Real Est	2.8m	527	-4
Kobe Steel	2.6m	304	-10

4 pm close July 2

NEW YORK STOCK EXCHANGE PRICES

1996 High	1996 Low	Stock	Div	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chg'e Prev. Close
23¾	18	AAR	0.48	2.6	19	844	19¾	d19	19⅛	-½
46⅛	36½	AMP	1.00	2.4	20	2889	41½	40⅞	41	-⅜
97½	68	AMR			22	5035	91¼	89⅝	89⅞	-1¼
50½	37⅞	ASA	1.80	4.5	26	218	39⅞	39½	39¾	+¼
44¾	38⅛	AbbotL	0.96	2.2	19	5016	43½	43⅛	43⅜	-⅛
17¼	13¼	Abitibi Pr	0.40	2.9	7	625	13¾	13⅝	13¾	+⅛
39½	27	ABM Ind	0.70	1.8	20	20	u39½	39⅜	39½	+⅛
18¾	13⅞	Acpincein			47	353	u18¼	17⅝	18	+⅝
50⅜	37¼	ACE Ltd	0.56	1.2	11	335	47	46¾	46¾	-¼
9⅞	9⅛	ACM Gvt In x	0.90	9.1	8	59	u9⅞	9¾	9⅞	
7⅞	6⅝	ACM GvOpp x	0.57	8.3		17	6⅞	6⅞	6⅞	
7¼	6	ACM Gvt Sp x	0.66	10.4		374	6½	6⅜	6⅜	-⅛
9⅛	8¼	ACM Gvt Sd x	0.90	10.6		397	8⅝	8½	8½	-⅛
9½	8½	ACM Man x	0.90	10.4		278	8¾	d8½	8⅝	-⅛
30¾	16½	AcmeClv	0.52	1.7	7	6	30	29⅞	29⅞	-⅛
13⅞	6⅛	Acme Elect			45	268	8½	8⅛	8¼	
33¾	27¾	Acordia	0.80	2.4	20	33	33½	33⅛	33⅛	-⅜
21⅜	12	Acuson			86	1283	15½	14⅝	14⅝	-⅞
19½	18⅜	Adams Expr	1.66	8.6	0	180	19⅜	19¼	19⅜	+⅛
21¼	12⅞	AdvMic			5	8223	14	13⅜	13⅝	-⅜
11⅛	8½	Advest Grp	0.16	1.5	7	89	10⅝	10½	10⅝	+¼
26⅛	9⅛	Advo Inc	0.10	1.0	56	387	10⅜	10⅛	10⅛	-⅛
50⅜	41⅛	Aegon	1.19	2.6	14	30	46¼	46	46¼	
8¾	3½	Aeroflr			4	727	8⅛	5⅞	6⅛	+¼
78¾	66⅜	AetnaL	2.76	3.8	19	3643	73⅝	72⅜	72½	-1⅛
33	26⅛	Aflac	0.40	1.3	13	1583	30⅞	30⅛	30¾	+⅜
30⅜	17⅛	AGL Res	1.06	5.6	16	1162	18¾	18¾	19	+¼
28	21¼	Ahmnsn	0.88	3.2	7	2178	27⅜	27⅛	27⅜	
60⅞	50⅜	AirPrC x	1.10	1.9	16	2203	58¼	57¼	57¼	-¾
28⅜	23½	Airbrne Frt	0.30	1.1	24	460	26⅞	26⅝	26⅞	+⅝
22½	15½	Airgas Inc			31	968	19¾	18⅞	19⅛	-⅛
[illegible]										

- B -

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4 pm close July 2

NYSE PRICES

Continued from previous page

1996 High	Low	Stock	Div.	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chng Prev. Close
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

- T -

- U -

- V -

- W -

- X - Y - Z -

NASDAQ NATIONAL MARKET

4 pm close July 2

Stock	Div.	P/E	Sls 100s	High	Low	Last	Chng
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

- A - - B - - C - - D - - E - - F - - G - - H - - I - - J - - K - - L - - M - - N - - O - - P - Q - - R - - S - - T - - U - - V - - W - - X - Y - Z -

AMEX PRICES

4 pm close July 2

Stock	Div.	P/E	Sls 100s	High	Low	Close	Chng
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

AMERICA

Shares fall on tech warnings, rate concerns

Wall Street

Technology shares gave up ground at midsession, following a spate of profit warnings from some of the sector's leading companies, *writes Lisa Bransten in New York.*

In early afternoon trading, the Nasdaq composite, which has about a 40 per cent technology shares content, was 4.17 off at 1,193.28 and the Pacific Stock Exchange technology index lost 0.7 per cent.

The most prominent profits warning came from Digital Equipment, which said that it expected fourth-quarter earnings to be below analysts' estimates, and revenues to be lower than those of the comparable period. Digital also announced that the head of its computer systems division would resign. Shares in the company slid $5, or 11 per cent, to $41.

Borland International, which makes computer software, said that it expected to make a loss of 53 to 56 cents a share in the first quarter and announced the resignation of its chief executive. Shares in that company were down $1¼, or 14 per cent, to $8.

Other software companies to issue warnings included Wonderware, off $3⅞ or 20 per cent at $15¼, Sybase which fell $1⅛ or 8 per cent to $18⅜, and Segue Software, which shed $12⅝ or 48 per cent to $11⅞.

Interest rate concerns held sway over other areas of the market as the Federal Reserve's Open Market Committee began a two-day meeting to consider monetary policy. New data which showed that rising interest rates had not slowed activity in the housing sector caused speculation that the Fed might raise rates at some time during the summer. This sent the bond market lower in early trading.

At 1 pm, the Dow Jones Industrial Average was 14.04 weaker at 5,715.94, the Standard & Poor's 500 had shed 2.00 to 673.88 and the American Stock Exchange composite was off 0.16 at 580.07. Volume on the New York Stock Exchange came to 222m shares.

Morgan Stanley added $1⅜ or 3 per cent at $50⅜ after reporting record second quarter earnings, due mostly to investment banking activity.

On the Dow, Minnesota Mining & Manufacturing slid $2¼, or 3 per cent, to $68⅞ after Prudential Securities cut its rating on the company, and Procter & Gamble lost $1⅞ at $88⅞. Advancing issues among the Dow 30 stocks included Boeing, which added $1⅛ at $91⅛, and Exxon, up $⅞ at $88⅛.

Canada

Toronto outperformed Wall Street at midsession as the market sought to catch up with New York's gains on Monday, when Canadian markets were closed for a holiday.

The TSE-300 composite index was 21.73 higher by noon at 5,065.80, but in weak volume of just 27.1m shares.

Analysts noted that equities were helped by a growing conviction that the US Federal Reserve was unlikely to raise interest rates at the two-day FOMC meeting which began yesterday.

The mood, however, was soured in part by the host of earnings warnings from US high-technology stocks.

Alcan Aluminium shrugged off a rating downgrade by Smith Barney, the US broker, to trade flat at C$41.55.

Among heavily traded stocks, TVX Gold picked up 5 cents to C$10.05.

Milkyway Networks shares, which made their debut on the exchange, traded as high as C$14.35 before pulling back to C$13.20, compared with an initial offer price of C$13.

Buenos Aires weaker

Buenos Aires edged lower at midsession on disappointment over June tax revenue figures and controversy surrounding Mr Domingo Cavallo, the economy minister. Analysts noted that Mr Ricardo Gutierrez, the treasury secretary, had conceded that the government was falling short of revenue goals set by the IMF.

They said another drag on the market was imposed by reports of differences between Mr Cavallo and President Carlos Menem after an unexpected rise in unemployment, a defeat in Buenos Aires mayoral elections, and comments by the economy minister on corruption. The Merval index shed 0.84 to 603.91.

MEXICO CITY turned back after a firmer start to trade and was weaker by midsession, with investors expecting higher interest rates at the auction of primary *Cetes* later in the day. The IPC index was down 2.34 points at 3,175.41.

S Africa regains confidence

Johannesburg moved confidently higher as gold shares defied a slumbering metal price and industrials were spurred by overnight gains on Wall Street.

The overall index rose 46.5 to 6,891.4, industrials added 52.0 at 8,190.5 and golds picked up 50.1 to 1,771.6.

Analysts said that the undertone was firm and that all indices could rise further in coming days, particularly the golds sector, expecting upbeat second-quarter results from the gold mining sector.

Among the most active gold counters, Kloof Gold Mining appreciated R3.50 to R44.50, while Free State Consolidated Gold Mines collected R2 to close at R42.75.

De Beers, the diamond giant, was actively traded and finished 50 cents higher at R147.50 after a steady tug-of-war between buyers and sellers.

Anglo American Gold surged R18.50, or 4.9 per cent, to R396, while Rustenburg Platinum Holdings, parent company of the strike-bound Rustenburg Platinum Mines, edged up 50 cents to R68.

EUROPE

CS Holding soars 12% on major restructuring

CS Holding put in a powerful performance in ZURICH after the bank announced a major restructuring, including a new name, a new CEO and the divestment of its non-core business. CS Holding jumped SFr14.50, or 12.1 per cent, to SFr134.50, while Elektrowatt, in which CS said it wanted to sell its 44.9 per cent stake, gained SFr24 to SFr483.

The planned sale of industrial activities by CS also gave a boost to UBS as investors had long expected the bank to take a similar step. UBS bearer shares put on SFr40 to SFr1,270 while SBC, the third of the big three Swiss banks, picked up SFr1.75 to SFr245.75.

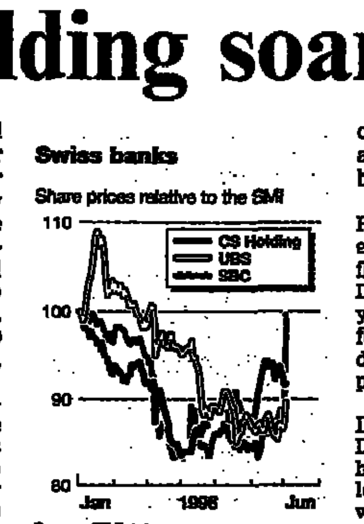
Shares of Motor Columbus, in which UBS has a stake, climbed SFr35 to SFr2,495 on the view that it was a potential partner for Elektrowatt.

Taking the opposite tack, Swiss Re, whose current CEO, Mr Lukas Muehlemann, will become the new Credit Suisse Group's chief executive officer, lost SFr5 at SFr1,265, after a low of SFr1,250, in response to his planned departure.

Activity in the banking sector took the broad market to an all-time high as the SMI index rose 22.6 to 3,750.8.

However, Mr Ian McEwen at Lehman Brothers said that the market appeared to be taking a

Swiss banks



Source: FT Extel

"flier" by pushing the CS Holding share price up so sharply, since the restructuring plan did not appear particularly radical. He thought that the Swiss banking sector was beginning to look overvalued, but did not rule out the possibility that the shares had potential for a further rise.

FRANKFURT's record peak was all too fragile. The Dax index came back from a morning high of 2,586.53 to an Ibis-indicated 2,565.32, down 6.13, as sentiment soured on Wall Street. Turnover was DM7.4bn.

The shock of the day, however, came outside the Dax 30. Jungheinrich said that it did not expect an improvement in operating earnings this year, and that its net profits would be hit by restructuring costs.

Mr Stefan Mülheim, at Dillon Read, said that he had cut his earnings for the forklift maker from DM14.50, to a DM9.50 to DM10 range for the current year, and from DM18, to DM14 for 1997. The shares, ex dividend, fell a net DM35, or 13.3 per cent, to DM228.

There was a ripple in the Dax 30 as Linde fell DM10 to DM973. However, said Mr Mülheim, the forklift market leader was well diversified, whereas Jungheinrich had been less successful on that score.

PARIS worried that the surge in US home sales could prompt the FOMC to raise US interest rates. The CAC-40 index moved from strength to weakness, finishing 6.95 lower at 2,111.80 in turnover of FFr4.48bn.

Dassault Aviation had second thoughts. Up 8.6 per cent on Monday ahead of the confirmation of the merger plan with Aerospatiale, the shares turned tail and fell FFr64, or 7.4 per cent, to FFr804. However, Cap Gemini, selling its 36 per cent stake in Cisi, rose another FFr6.50 to FFr214 in 367,000 shares dealt for a two-day gain of 7 per cent.

Meanwhile, the drop in French car sales in June had analysts considering the potential effects of a price war in the market. Renault dipped FFr1.40 to FFr131.50 and Peugeot, with a recently stronger market share performance, by FFr21, or 3.1 per cent, to FFr651.

Takeover speculation in the reinsurance market lifted Scor by another FFr9.80 to FFr215.80; UAP, which has 40 per cent of Scor, put on FFr2 at FFr103.80 in 444,000 shares.

MILAN gave up an early advance to close flat as domestic bonds eased and investors held back ahead of June inflation figures on Friday.

The Comit index picked up 0.43 to 657.10, while the real-time Mibtel index turned back from a high of 10,530 to end a point down at 10,453.

Montedison lost L9 to L851.7 on further worries over capital write-downs, but Eni climbed L103 to L7,900.

Olivetti picked up L10.5 to L832.1 after Omnitel, in which Olivetti is the major shareholder, said that it had 300,000 GSM mobile telephone subscribers at the end of June.

Tim, whose GSM subscribers at end-June climbed to 773,795, rose L36 to L3,493.

AMSTERDAM's AEX index finished 0.58 lower at 559.45, after 563.24. The brewer Heineken dropped Fl 7.20 to Fl 372 after reports of a mildly bearish note from a big US broker.

BRUSSELS featured a new all-time closing high in Delhaize, the retailer, which closed BFr50, or 3.1 per cent, higher at BFr1,665 as the Bel-20 index rose 7.44 to 1,765.06.

The retailer's gain followed an overnight rise in its US unit Food Lion of $⅛ to $5⅞. Food Lion accounts for around three-quarters of Delhaize's group sales.

ATHENS gave back all of Monday's 1.4 per cent advance on a combination of losses by bank shares and some industrials and a sharp drop in the construction sector.

The general index dropped 13.24 to 909.50, but some analysts described the fall as unjustified. They noted that economic fundamentals were sound and said that any changes in economic policy introduced by Mr Costas Simitis, the prime minister, who consolidated his grip on the party machine at the weekend, were likely to be for the better.

WARSAW was weak, as investors awaited the results of today's Russian election. The Wig index fell 165.1 to 13,615.3 and analysts said that the reaction of foreign investors to the poll result would be crucial to the market's direction in coming days.

MOSCOW, by its own recent standards, picked up only slightly as presidential aides sought to allay concerns about Mr Boris Yeltsin's illness, officially said to be a cold. However, the RTS-21 index closed 10.73, or 5.4 per cent, ahead at 209.36.

The Russian market will be closed today, a holiday for the presidential election run-off poll. Brokers yesterday were divided over the post-election prospect.

Written and edited by William Cochrane and Michael Morgan

FT-SE Actuaries Share Indices

THE EUROPEAN SERIES

Jul 2 Hourly changes	Open	10.30	11.00	12.00	13.00	14.00	15.00	Close
FT-SE Eurotrack 100	1709.32	1709.60	1709.30	1707.92	1707.94	1707.36	1707.56	1708.94
FT-SE Eurotrack 200	1740.10	1741.08	1739.03	1738.46	1738.09	1738.23	1739.86	1738.65

	Jul 1	Jun 28	Jun 27	Jun 26	Jun 25
FT-SE Eurotrack 100	1701.31	1698.43	1693.02	1699.10	1695.42
FT-SE Eurotrack 200	1731.91	1726.44	1716.58	1723.45	1721.65

Base value 1000 (26/10/90); High/day: 100 - 1711.42; 200 - 1741.73 Low/day: 100 - 1705.67 200 - 1736.79. † Partial

ASIA PACIFIC

Rate worries, finance house rumours depress Nikkei

Tokyo

Rumours that a non-bank finance company might go under, and mounting uncertainty over a possible shift in monetary policy, combined to depress sentiment, *writes Emiko Terazono in Tokyo.*

The Nikkei 225 average fell 107.52 to 22,347.97, after moving between 22,269.90 and 22,485.23.

Investors remained wary over the course of US and Japanese interest rates ahead of a press conference by Mr Yasuo Matsushita, governor of the Bank of Japan, and the US FOMC meeting. The BoJ had changed its accommodative stance on the short-term money markets to neutral, following last week's decline in long-term yields.

Volume totalled 295m shares as most investors stayed on the sidelines. Investors were also unnerved by speculation that Dai-Ichi Kangyo Bank (DKB) was about to suspend its financial assistance to Nichiei Finance, a non-bank money lender.

The Topix index of all first section stocks declined 8.78 to 1,699.43 and the Nikkei 300 by 1.93 to 315.09. Losers led gainers by 661 to 362, with 200 issues unchanged.

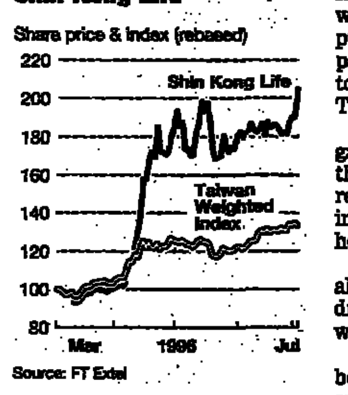
In London the ISE/Nikkei 50 index rose 2.89 to 1,515.32.

Large-capital steels and shipbuilders lost ground. Nippon Steel shed Y3 to Y369, Kawasaki Steel Y10 to Y391 and Mitsui Engineering and Shipbuilding Y4 to Y331. Carmakers fell again, with Toyota Motor down Y40 at Y2,640 and Honda Motor off Y20 to Y2,820.

Nichiei, the real estate developer and parent of Nichiei Finance, plunged Y71 to Y441, although an official at the latter, down Y80 at Y175, said the rumours were groundless.

Financials were lower, with DKB down Y20 to Y2,000 and Fuji Bank losing Y30 to Y2,340. Brokers lost ground on profit-taking, Nomura Securities shedding Y10 to Y2,130 and

Shin Kong Life



Source: FT Extel

Nikko Securities Y30 to Y1,200.

Keisei Electric Railway, the most active issue of the day, gained Y20 to Y1,270 on buying by individual investors. The company is a leading shareholder of Oriental Land, which runs Tokyo Disneyland and is reported to be considering listing on the Tokyo stock exchange. Mitsui Fudosan, another shareholder in Oriental Land, put on Y30 at Y1,520.

Some speculative stocks weakened on profit-taking. Kanematsu, the trading company, dropped Y21 to Y754.

In Osaka, the OSE average dipped 104.10 to 23,625.31 in volume of 25.5m shares.

Roundup

A solid afternoon rally lifted HONG KONG as expectations grew that US interest rates would not be increased at this week's FOMC meeting. The Hang Seng index rose 81.82 to 11,084.43, with turnover improving to HK$3.9bn.

One analyst suggested overseas money had helped to bolster stocks. HSBC led the rally, climbing HK$2 to HK$120.

Bullish sentiment on Cheung Kong's infrastructure spin-off, which was priced at the high end of its projected range and was 25 times subscribed, helped the property developer rise HK$1 to HK$56.75.

Asean Resources tumbled 40 cents, or 16.3 per cent, to HK$2.05 on news that Asean warrant holders had rejected a proposal by its parent company, Huey Tai International, to launch a rights issue. Huey Tai slipped 2 cents to HK$1.28.

TAIPEI's financials led early gains, and stayed higher when the broad market went into reverse, leaving the weighted index 62.58 lower at 6,497.83 in heavy turnover of T$82.64bn.

Profit-taking hit big industrials after last week's window dressing. Plastics fell most with a slide of 4.8 per cent.

Financials, which had lagged behind, resisted the pressure and rose by 0.6 per cent, with Shin Kong Life up by the daily 7 per cent limit, T$8 higher at T$127.

SYDNEY saw the stronger Dow offset weak metal prices. While the All Mining index was virtually flat, the All Ordinaries closed 11.2 up at 2,256.3 in turnover of A$619.6m.

BHP rose 21 cents to A$17.51 on support after Monday's sell-off, and National Australia Bank, lifted by the Dow, put on 13 cents at A$11.98.

In contrast, the base metal miners WMC, MIM and CRA all ended weaker after showing promising signs of resilience in the first hour of trade. WMC lost 11 cents at A$9.

KUALA LUMPUR saw renewed vigour in some transport stocks as news that Konsortium Perkapalan was buying the US company Pacific Basin raised expectations of faster mergers and rationalisation within the local shipping and haulage sectors.

Konsortium stock was suspended, but Integrated Logistics rose 25 cents to M$6.75, Diperdana by 70 cents to M$22.70, Global Carriers by 45 cents to M$8.70 and MISC by 20 cents to M$7.80.

Interest rate concerns left the composite index just 2.77 higher at 1,139.82.

SEOUL edged ahead but volume remained slim as today's listing of 11 stocks on the bourse raised worries about oversupply. The composite index ended 4.14 up at 837.93.

Samsung Electronics rose Won900 to Won72,900 on talk that semiconductor companies' earnings would not be as bad as had first been expected.

SINGAPORE's Straits Times Industrial index finished with a fall of 18.07 at 2,273.46.

Amcol, under investigation by the government's white collar crime unit, dipped to an intra-day low for the year of S$2.98, before edging back to the previous closing low of S$2.99, just as the market closed. Analysts attributed heavy volume of 5.7m shares to forced selling by investors who traded on the margin.

Aztech dropped 11 cents to 56 cents after reporting an unexpected first-half 1996 loss.

BANGKOK had expected the central bank governor Vijit Supinit's resignation: and while it welcomed the move, saying it would be good for the battered Bank of Thailand, there were no celebrations in the equity market. The SET index slipped 7.91 to 1,239.17.

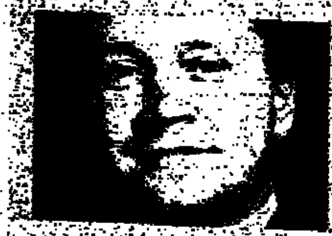
FT/S&P ACTUARIES WORLD INDICES

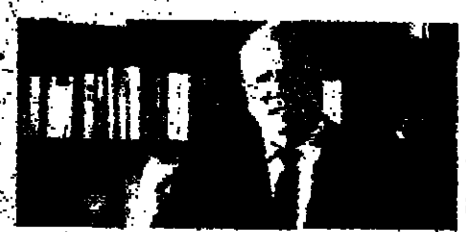
The FT/S&P Actuaries World Indices are owned by FT-SE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FT-SE International and Goldman Sachs in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

NATIONAL AND REGIONAL MARKETS Figures in parentheses show number of lines of stock	MONDAY JULY 1 1996 US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div. Yield	FRIDAY JUNE 28 1996 US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	DOLLAR INDEX 52 week High	52 week Low	Year ago (approx)
Australia (79)	201.60	0.2	192.32	139.78	159.64	170.44	0.1	4.32	201.44	192.21	138.66	159.41	170.22	212.18	163.30	163.98
Austria (24)	181.44	-1.4	172.91	125.67	143.71	143.65	-1.3	1.95	183.92	175.50	127.52	145.55	145.49	198.98	168.11	197.48
Belgium (27)	210.51	0.6	200.62	145.81	166.73	162.79	0.7	4.09	208.16	199.58	145.02	165.53	161.60	215.81	186.06	194.40
Brazil (28)	180.73	1.5	172.23	125.18	143.15	334.00	1.4	1.98	178.13	169.97	123.51	140.97	329.23	181.89	123.97	130.76
Canada (120)	160.05	0.2	152.53	110.86	126.77	167.93	0.0	2.29	159.70	152.38	110.72	126.38	157.93	165.12	134.14	143.07
Denmark (30)	304.70	0.5	290.38	211.05	241.34	243.27	0.6	1.89	303.09	289.21	210.14	239.86	241.80	305.17	276.53	276.53
Finland (23)	194.17	1.2	185.05	134.49	153.79	189.45	1.3	2.64	191.83	183.05	133.00	151.81	187.05	278.11	171.73	236.22
France (96)	197.14	-0.3	187.87	136.54	156.14	159.33	-0.3	3.02	197.80	188.74	137.14	156.54	159.74	198.39	167.70	181.35
Germany (58)	172.26	0.0	164.16	119.31	136.44	136.44	0.1	1.82	172.32	164.42	119.47	136.37	136.37	174.38	155.86	157.49
Hong Kong (59)	430.58	-0.3	410.35	298.24	341.04	427.91	-0.3	3.33	431.89	411.91	299.30	341.63	429.02	451.19	346.81	359.51
Indonesia (27)	216.06	0.9	205.91	149.65	171.13	308.31	0.8	1.48	214.14	204.33	148.47	169.47	305.76	-	-	-
Ireland (16)	286.90	0.0	273.42	198.72	227.24	252.78	-0.1	3.39	286.95	273.80	198.95	227.08	253.11	290.82	235.88	236.59
Italy (59)	81.13	-0.9	77.31	56.19	64.26	93.01	-0.8	2.37	81.90	78.15	56.78	64.82	93.77	84.53	67.22	73.33
Japan (481)	156.51	-0.1	149.16	108.41	123.97	108.41	-0.2	0.71	156.65	149.48	108.61	123.97	108.61	164.69	137.76	142.49
Malaysia (107)	560.27	0.1	533.94	388.07	443.76	537.72	0.0	1.67	559.44	533.81	387.88	442.73	537.64	585.09	425.77	530.02
Mexico (18)	1220.22	-1.1	1162.87	845.17	966.47	10168.00	-0.5	1.31	1233.34	1176.84	855.11	976.03	10221.42	1325.85	791.99	1028.31
Netherland (19)	298.54	-0.4	282.60	205.39	234.87	231.26	-0.3	3.12	297.67	284.03	206.38	235.57	231.91	299.89	245.79	249.89
New Zealand (15)	80.27	0.2	76.50	55.60	63.58	62.21	0.2	4.36	80.09	76.42	55.53	63.38	62.08	85.49	75.94	78.86
Norway (35)	253.44	1.1	241.53	175.54	200.74	223.64	1.2	2.03	250.68	239.20	173.81	198.38	221.05	256.94	222.24	233.14
Philippines (22)	214.96	0.4	204.86	148.89	170.26	280.51	0.3	0.54	214.14	204.33	148.47	169.47	279.60	-	-	-
Singapore (44)	415.02	-0.5	395.51	287.46	328.71	269.86	-0.5	1.41	416.98	397.88	289.11	329.98	271.23	465.21	355.81	393.37
South Africa (44)	360.74	-0.5	343.79	249.86	285.73	341.45	-0.5	2.12	362.38	345.78	251.25	286.78	343.00	437.76	339.37	343.41
Spain (37)	183.85	0.3	175.21	127.34	145.61	178.53	0.3	3.20	183.29	174.89	127.08	145.05	178.03	183.85	145.15	147.24
Sweden (48)	358.40	0.3	341.56	248.24	283.87	352.59	0.4	2.41	357.35	340.98	247.76	282.80	351.04	360.77	269.58	269.58
Switzerland (38)	244.28	0.1	232.80	169.20	193.48	189.16	-0.1	1.56	244.10	232.91	169.24	193.17	189.42	252.34	191.24	201.52
Thailand (45)	166.41	0.1	158.59	115.26	131.80	163.95	0.0	2.01	166.31	158.69	115.31	131.61	163.95	193.95	146.74	170.41
United Kingdom (200)	234.72	0.6	223.69	162.57	185.91	223.69	0.4	4.17	233.41	222.72	161.83	184.72	222.72	237.43	213.27	213.27
USA (627)	275.06	0.8	262.13	190.51	217.86	275.06	0.8	2.16	272.73	260.23	189.09	215.83	272.73	276.47	222.54	222.54
Americas (793)	251.09	0.8	239.29	173.91	198.87	211.09	0.8	2.14	249.05	237.64	172.68	197.09	209.38	252.43	203.80	203.80
Europe (711)	211.82	0.1	201.86	146.71	167.77	185.02	0.1	3.06	211.52	201.83	146.65	167.39	184.80	211.82	188.21	188.21
Nordic (138)	306.57	0.5	292.16	212.34	242.82	265.65	0.7	2.32	304.93	290.96	211.42	241.32	263.93	306.61	261.13	261.37
Pacific Basin (879)	169.22	-0.1	161.27	117.21	134.03	119.31	-0.2	1.16	169.35	161.59	117.42	134.02	119.51	177.01	148.86	152.76
Euro-Pacific (1590)	186.86	0.0	178.08	129.43	148.00	144.24	0.0	2.05	186.81	178.26	129.52	147.84	144.29	190.57	166.51	167.44
North America (747)	267.95	0.8	255.35	185.59	212.23	267.22	0.8	2.15	265.75	253.57	184.25	210.31	265.05	269.52	217.62	217.62
Europe Ex. UK (511)	194.00	-0.1	184.88	134.37	153.65	161.23	-0.1	2.46	194.16	185.27	134.62	153.65	161.31	194.16	169.85	170.25
Pacific Ex. Japan (398)	287.93	0.0	274.40	199.43	228.06	248.71	-0.1	2.86	287.99	274.80	199.67	227.91	248.86	296.68	243.59	250.53
World Ex. US (1800)	188.07	0.0	179.23	130.26	148.96	148.66	0.0	2.05	188.01	179.39	130.35	148.78	148.70	191.55	167.38	168.38
World Ex. UK (2227)	212.98	0.4	202.97	147.52	168.69	180.94	0.3	1.89	212.20	202.48	147.13	167.93	180.32	213.05	182.12	182.12
World Ex. Japan (1946)	247.25	0.5	235.63	171.25	195.83	233.95	0.5	2.50	245.98	234.71	170.54	194.66	232.77	247.55	208.73	208.79
The World Index (2427)	214.96	0.4	204.86	148.89	170.26	185.05	0.3	2.08	214.14	204.33	148.47	169.47	184.40	214.96	184.85	184.85

PLEASE NOTE: Amendments to indices 1/7/96 applied to Japan and related regional indices. CONSTITUENT CHANGES WITH EFFECT 3/7/96: Deletion: Winterthur (Bearer) (Switzerland). Latest prices were unavailable for this edition. Markets closed 1/7/96: Canada and Thailand.

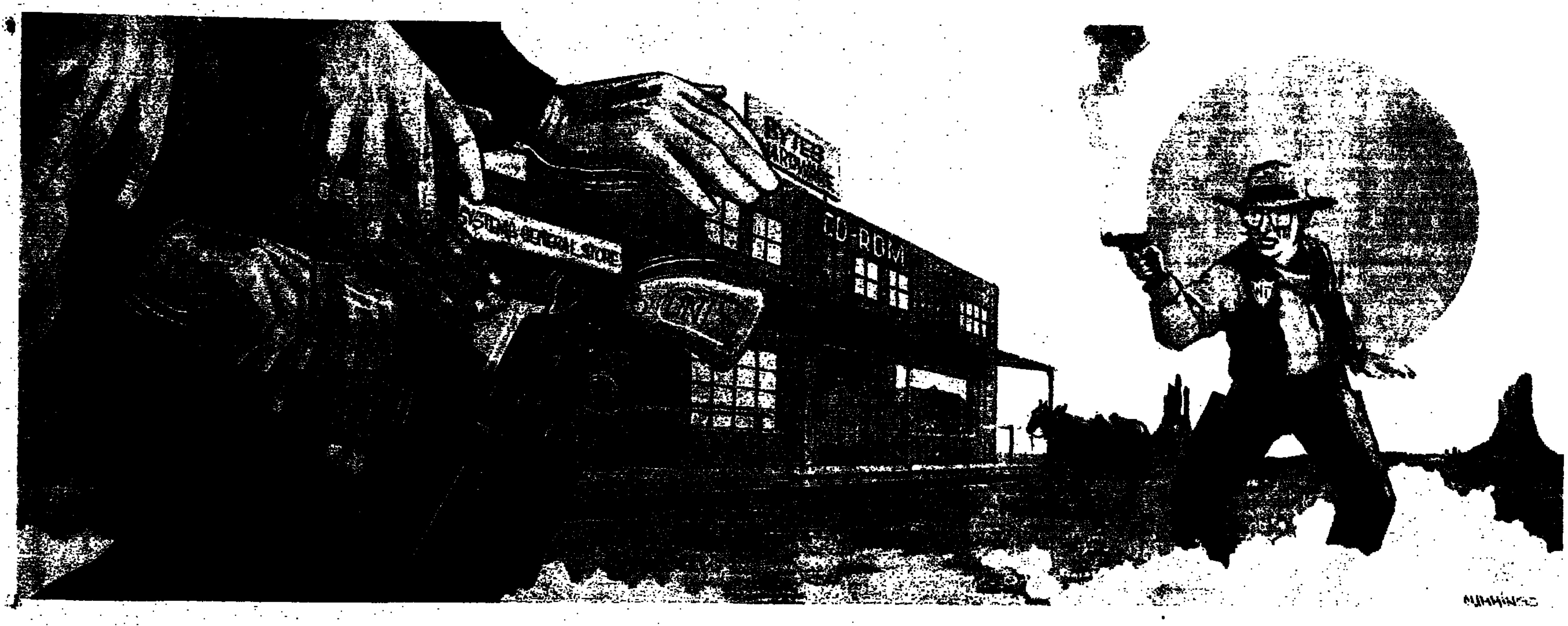
FINANCIAL TIMES REVIEW





Information Technology

Wednesday July 3 1996



Shoot-out ahead over control of corporate network systems

The next 18 months are likely to be crucial in the battle between Unix and Windows NT for control of corporate departmental network systems. For Microsoft, which has bet its future on NT, it will also be a decisive period, writes Paul Taylor

It's a classic showdown between an old hand and a young upstart. Nearly four years ago, Microsoft launched Windows NT (New Technology), a new "industrial-strength" computer operating system which the world's largest software company promised would change the face of corporate computing.

Now, after a slow start, a growing number of companies appear to be satisfied that NT is finally mature enough to be taken seriously as an alternative to their old-but-reliable Unix-based systems.

This alone represents a remarkable about-turn. Only a few years ago, NT was being written off as another unreliable and over-hyped failure. Now, as Microsoft prepares to launch the next version of NT, which boasts a Windows 95-style user interface, it is viewed as a viable solution, especially for departmental servers. Some bolder companies have begun evaluating its potential for enterprise or corporate-wide systems.

The initial uptake of NT was much slower than many analysts and industry pundits had expected. By last year, NT had secured only one per cent of the total operating system market, according to Dataquest figures.

Nevertheless, Microsoft professes to be pleased with NT's progress, particularly in financial institutions. At the important departmental server level, NT does now appear to be making big strides. The latest research figures from consultants IDC reveal that NT had seven per cent of the worldwide networking market, compared with 11 per cent for both Unix and IBM's OS/2, and 45 per cent for Novell Network, the market leader.

What is more, research groups such as Dataquest predict that NT will make further significant gains over the next few years. By the end of the decade, Dataquest is expecting NT to have secured more than 40 per cent of the operating system market.

Perhaps more significantly, hardware vendors such as Digital Equipment predict that, by the year 2000, Unix and Windows NT will be level-pegging in the crucial server market – each accounting for about 40 per cent of server revenues, leaving the remaining 20 per cent to be shared out among so-called 'legacy systems'.

So what is driving the corporate IT world into Microsoft's arms? Aside from Microsoft's aggressive marketing campaign, there are a number of key factors working in NT's favour.

Among these, there has been growing disillusionment with Unix which, critics argue, has failed to deliver on its promise of ubiquitous open system computing and interoperability.

Indeed, Unix remains a collection of similar but not identical operating systems which, with very few exceptions, will run on only one computer platform. Thus, AIX runs on computers of various sizes, but all made by International Business Machines. Meanwhile, Hewlett-Packard, Sun and other hardware vendors back their own Unix variants.

"Unix missed the chance to come together," says Hasso Plattner, vice chairman of SAP, the German software group, echoing an increasingly widely held view.

What is more, moving Unix applications to new platforms involves not just recompilation but actual changes in 'source code', raising the cost of developing new applications and after sales support.

In contrast, NT appears to be much better positioned than Unix to take advantage of standard off-the-shelf hardware and software, particularly machines based on Intel microprocessors. NT also runs on Digital's Alpha servers, those using Silicon Graphics Mips chips and on IBM and Motorola PowerPCs.

As a result, although NT applications – which include all Windows 95 applications, since they are based on the same core technology – have to be recompiled for each hardware platform, they do not have to be rewritten, offering a big advantage in terms of cost and flexibility.

Microsoft has also built powerful alliances to support NT with hardware vendors, such as Digital, and software companies, such as SAP.

It has also encouraged software developers to use an extended list of development tools to build applications using NT. As Plattner of SAP notes: "Developers have switched to NT. Not everyone will *like* that, but it is true."

NT also makes it easier to integrate servers and desktop PCs with Microsoft's popular Office and Back-Office suites. For some buyers, picking Microsoft is a reassuringly safe bet because its dominance of the industry.

For business customers one of the most important factors will be cost of ownership and Windows NT scores in this area too. Not only are Windows NT based systems generally reckoned to be easier to set up and configure than their Unix rivals, they are also easier and cheaper to maintain.

"As Windows NT penetrates traditional Unix markets, support is becoming a key competitive weapon," notes Input, the UK-based market researchers.

"The complexity of Unix relative to Windows NT makes it more expensive to support. Additionally, there is a flourishing open NT support market which gives user organisations a wide choice of external support contracts."

Competitors

Meanwhile, the introduction of higher performance Alpha processors from Digital Equipment and faster Pentium processors from Intel have helped NT compete more effectively with the fast 'Unix boxes' sold by Sun Microsystems and other committed Unix vendors.

But NT is not the only server operating system that can take advantage of cost-effective Intel-based hardware. So, too, can Novell NetWare, IBM OS/2, and SCO Unix, which is already running on about two million x86-based servers – more than any other version of Unix, according to SCO. "Obviously, there must be additional reasons why increasing numbers of MIS managers are choosing NT," said *Byte Magazine*, in a recent report.

One factor, say corporate users, is that it is easier to integrate Windows NT with their existing hardware and software. Companies which already have Windows PCs on their desktops naturally lean toward NT when they have to choose among server options. They would rather deal with a single OS vendor, and NT has an instantly familiar look and feel.

But despite NT's ascendancy, most independent analysts agree that Unix still has some key advantages which are likely to ensure that it not only survives, but thrives in some environments, particularly large-scale enterprise-wide and high performance systems.

In terms of performance, the low-priced PC-servers are limited by their internal architecture when they try to tackle the really big jobs. Even the best Intel-based servers have trouble keeping up with the fastest Unix machines, especially when managing large databases developed using database software from vendors such as Oracle, Sybase, or Informix.

As databases grow, the scaling ability and robustness of Windows NT are still big concerns for many large corporate customers, which is why even those who have bought into Microsoft's NT strategy, still have some Unix boxes.

Despite Microsoft's claims, most independent consultants argue that NT still lacks the scaleability of Unix systems – an advantage that Unix is likely to retain for some time. As a result, many companies are choosing to mix NT and Unix-based computer systems – and expanding their use of both platforms.

For small or medium-sized installations, typically departmental networks, they use Windows NT running on low-end servers containing four or fewer processors, but continue to deploy Unix servers where bigger systems are required.

"Windows NT is definitely gaining ground in corporate installations, but because the global computer market continues to expand at a prodigious rate, NT is not killing off Unix. On the contrary, Unix is likely to thrive into the next century," says *Byte*.

But as standardised Windows NT applications increase in variety, scope and quality, others argue that there is only one eventual outcome.

"There may be resentment of Microsoft within the computer industry and even among users," said a leader in the *Infospectives* journal in January, entitled "The Tragedy of Unix".

"But practical considerations will, in the end, determine the course of action businesses must take. If Unix software is substantially more costly than equivalent NT software, Unix software will not be as popular."

After all, the main reason Unix became successful was that it was cheaper for a software developer to reach a large market with a Unix program than with a program for a proprietary system.

"The Unix situation is nothing less than tragic," said *Infospectives*. "The hubris that led to AIX being different from HP-UX is now going to lead to the demise of the Unix hero."

■ Interview with John Chambers

Ahead of the pack on the information superhighway

"When you are growing at 90 per cent a year, I can tell you, your knees shake," says the president and chief executive of Cisco Systems. He is interviewed here by Louise Kehoe

John Chambers is at the wheel of the fastest race car on the information superhighway.

The world's leading manufacturer of internetworking equipment, Cisco has supplied more than 80 per cent of the "routers" – data traffic directors – for Internet links worldwide. It is also in poll position as businesses build private "intranets" and as telephone companies rush to participate in the merger of voice and data communications. Yet another potentially huge market, networking equipment for the home, may be just around the corner.

"In this industry we measure life in 'dog years'. We cram seven years into every year... the pace is unbelievable," says Chambers.

Bringing new products to market at breakneck speed is critical. Learning, as a young company, to provide customer support and service in the style of a mature industry is also essential.

To create a broad product line quickly, the company has augmented in-house development with licensing agreements, partnerships and and acquisitions. Over the past three years, Cisco has acquired ten smaller companies, culminating in the pending $4bn purchase of StrataCom, the leading producer of switching equipment for high speed data networks.

Yet as data networks become part of the fabric of business operations as well as public services, there are advantages to having a single supplier for a full range of equipment, Cisco claims. "The products work seamlessly together and we can work with customers to create solutions that fit their needs," says Mr Chambers.

"Networking is of such strategic importance that customers lean in favour of a vendor that can provide a high level of service and support, and one that has international capability, as well as financial staying power."

Cisco's customers now view internetworking not only as a productivity tool, but critical to their competitiveness, he explains – "for some, it is a matter of survival". He adds: "We are just scratching the surface in terms of the amount of traffic going over the Internet."

Demand for network capacity will continue to increase, he predicts. "In inter-networking, everything has occurred much faster than we originally projected. Our customers tend to adopt our products at a much quicker pace than we expect. The same will be true of broadband (network) requirements for businesses and also for the home.

"Very often, when people are projecting how much traffic there will be on a [new] highway, they base their figures on who is driving on the back roads today. But when you build the highway a lot of people use it who would not have travelled before. They use it as a way to get to areas that perhaps they would not have gone to before."

Similarly, he believes, demand for broadband services to the home will mushroom as soon as these networks are available. The key to opening this potentially huge new market is putting the technology in place at the right price, he says.

There must, however, be some "driver applications" that persuade telephone and cable companies to invest in upgrading their networks, he acknowledges. Interactive television trials have demonstrated that "video-on-demand is not the driver application, as people originally thought". But there *will* be other compelling applications, he believes.

These applications may be different for different parts of the population, he suggests. "For me, it was a combination of factors. I got frustrated with slow access to the Internet... and I wanted access to my presentations without having to drive to the office, and access to various news sources."

The initial users of broadband networks will be businesses and young professionals in their homes, he suggests. With more and more US colleges and universities providing students with access to high-speed networks in their dormitories, "we are now dealing with a whole generation of young professionals who appreciate how to use this technology and what it can do for them".

Several technologies including ISDN, ADSL and (television) cable networks will be part of the solution to making high speed data network access more widely available, Mr Chambers believes. "We have no religion when it comes to technology. We want to solve the problem and we think it will take a combination of technologies to do that."

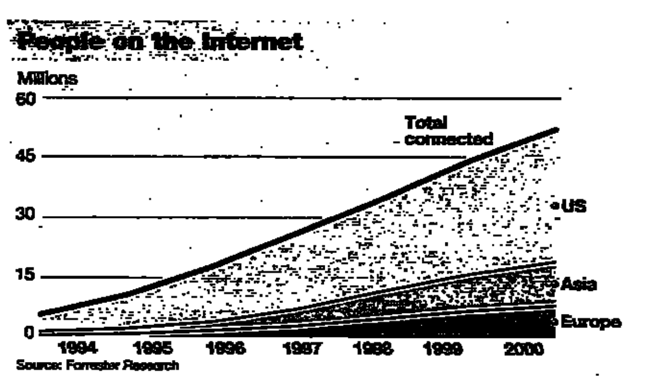
Higher-speed access is not the only hurdle to better performance of the Internet, however, as many PC users who have upgraded their modems from 14.4 kilobaud to the latest 28.8 kilobaud models are now discovering.

"People often sit in a traffic jam and wonder what the cause is: there can be lots of different reasons for a hold-up on the highway," Mr Chambers observes. Similarly, on the Internet there are many points at which data traffic can be held up.

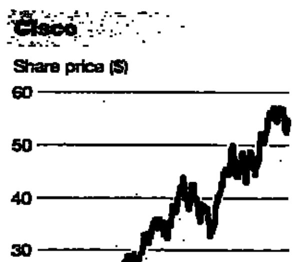
"It may be the link to the service provider, but often a traffic jam can occur on the feeder highways, or at intersections." All the elements of the network need to be improved to assure the free flow of data traffic, he explains. "We will make products that allow the intersections to move faster, but we also need wider highways as well as software to balance the flow of traffic automatically."

There will be an increased focus on reliability of the Internet, he says. "What was an acceptable performance a year ago is not acceptable today – and next year will be something that you get thrown out for. Early users of the Internet tolerated a level of reliability that will not be acceptable in a year or two."

Chambers: 'New products come to market at breakneck speed'



Source: Forrester Research



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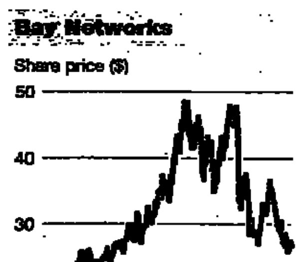

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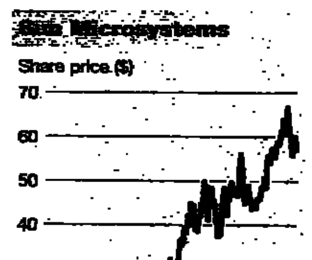

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■ Enterprise computing • By Louise Kehoe

Networks now vital to corporate effectiveness

Revenues for Internet-related products and services will rise from an estimated $4.95bn in 1995 to more than $36bn by the year 2000, analysts predict

When Sun Microsystems coined the phrase "the network is the computer" in the 1980s, it was largely an aspiration. Today, it is a truism that few in the information technology industry would question.

Networks – local, wide area and global – are defining a new model of information processing that reaches beyond the distributed or "client-server" approaches to allow any computer to link with another to swap data or programs.

In the business environment, networks are enabling employees to access information quickly, allowing them to make better informed decisions. Networks also enable collaboration among workgroups and are increasingly used to improve communications among suppliers and customers.

Companies now view networks not only as a productivity tool, but critical to their competitiveness, says John Chambers, chief executive of Cisco Systems, the leading data networking equipment supplier.

At the heart of this trend are the communications protocols and software standards of the Internet. From its genesis in the late 1960s, linking four computers at US Department of Defense sites in California and Nevada, the Internet has evolved into a global web of networks that anyone, almost anywhere in the world, with a personal computer and modem can tap into.

The Internet communications protocol, TCP/IP, has also become a *de facto* standard for private enterprise networks, or "intranets". It enables computers to communicate regardless of which operating system they are running.

Mosaic World Wide Web browser software, commercialised by Netscape Communications and others, is now expected to become the standard user interface for office computers. This will enable users to locate information, whether it be stored on the hard disk of a personal computer or on a server in a remote country, in the same way.

"The Internet and the World Wide Web are triggering a transition to another period of extreme growth in the IT industry that may well dwarf that brought about by the personal computer (in the 1980s)," says Frank Gens, of IDC, a US market research group.

Among the early beneficiaries of this trend are suppliers of Internet hardware and software, data networking equipment and Internet access services. "We believe new businesses that are created by or for the Internet marketplace will grow very rapidly, at an estimated compound annual growth rate of 38 per cent from now until the year 2000," say Mary Meeker and Chris DePuy of Morgan Stanley in *The Internet Report*, published earlier this year. Markets such as those for PCs, servers, semiconductors and telecom services are also expected to see strong growth as a result of the Internet boom.

Among the biggest winners will be data networking equipment suppliers such as Cisco Systems, Bay Networks, 3Com, Ascend Communications and Cascade. This market has been growing at a rate of 60-70 per cent over the past year and is expected to maintain at least a 50 per cent growth rate over the next 12-18 months, according to analysts at Salomon Brothers.

Cisco Systems leads this group with an estimated 80 per cent share of the market for Internet "backbone routers" which direct data traffic on the Internet. The advent of high speed data communications technologies such as ATM and Frame Relay will create increased demand for network upgrades, further boosting sales of data networking equipment, analysts predict.

> The trend toward Internet and intranet computing is challenging established IT leaders

Security hardware and software represent another booming segment of the networking market. As companies link their internal networks to the outside world, security has become a serious concern. Firewalls, designed to prevent unwanted intruders, encryption software to protect the privacy of messages sent via the Internet and authentication software and services are becoming essential elements of enterprise networks.

Sales of Internet-related security equipment and software were an estimated $200m last year and will blossom to $1bn by the end of the decade, the Morgan Stanley analysts predict.

Internet access and service providers (ISPs) have been among the most visible early beneficiaries of the Internet "gold rush". New competition from large telephone companies such as AT&T and established online information services such as America Online is, however, challenging the pioneers of this segment of the networking industry.

Despite rising demand, an industry shakeout seems inevitable. Already in the US, for example, AT&T's entry into the market has forced several other ISPs to reduce prices. The market is also fragmenting as some ISPs focus on consumer services, while others are concentrating on high speed Internet access for businesses.

While the trend toward Internet and intranet computing is creating new opportunities, it is also challenging established IT leaders. In the browser software market, for example, Netscape Communications and Microsoft are engaged in an all-out battle for market share. Microsoft is scheduled to launch the third version of its Internet Explorer later this summer, and claims that the new program will overtake Netscape with new features.

Microsoft has also announced plans for a new version of Windows, expected next year, that will adopt the browser as its primary user interface. Netscape, however, is fighting back. The current market leader, with an estimated 80 per cent market share, Netscape is launching new versions of its Navigator program every few months. Moreover, Netscape is expanding the role of the browser to create what is, in effect, a new PC operating system.

For the first time in many years, Microsoft faces a credible challenge to its domination of the desktop computer environment. The risk Microsoft faces is that third party software developers will turn their attention to creating Internet/intranet applications, rather than only for Windows.

Scott McNealy, Sun Microsystems chief executive, is convinced that this will happen. He envisages hoards of small start-up software companies writing programs using Java, Sun's new platform-independent Internet programming language. These programs, he says, will be stores on servers and downloaded to desktop computers only when needed. "Instead of going after just the Windows market they can write for Windows, Macintosh, UNIX, OS/2, mainframes as well as new Network Computing platforms," says Mr McNealy.

Larry Ellison of Oracle has also been promoting the "Network Computer" or "Internet appliance", a low-cost terminal that will enable users to download software and data from the Internet and intranets.

About two dozen companies have committed to manufacturing Network Computers, or components for this new category of devices. The first models will be introduced by September, says Mr Ellison, with broad availability expected by the middle of next year.

Some industry observers view the Network Computer as a threat to personal computer manufacturers and to Intel, the leading supplier of microprocessor chips to the PC industry. Mr Ellison, however, expects Network Computers to augment the use of PCs, rather than replace them. Several of today's leading PC manufacturers will soon be offering NCs, he says. Moreover, Intel will be the primary supplier of chips for Network Computers, Mr Ellison predicts.

The corporate application of NCs will be "very important", he says. "It addresses the serious problem of the rising cost of computing." In the consumer sector, NCs are expected to take many forms. One of the most promising applications, however, is multimedia electronic mail, says Mr Ellison. He anticipates that electronic messages that may include graphics, video and sound, will be "enormously popular".

Within a decade access to Internet-style data networks may be ubiquitous in the US, with other industrialised countries following a few years later, industry analysts predict, and with the number of users growing at a rate of close to 100 per cent a year.

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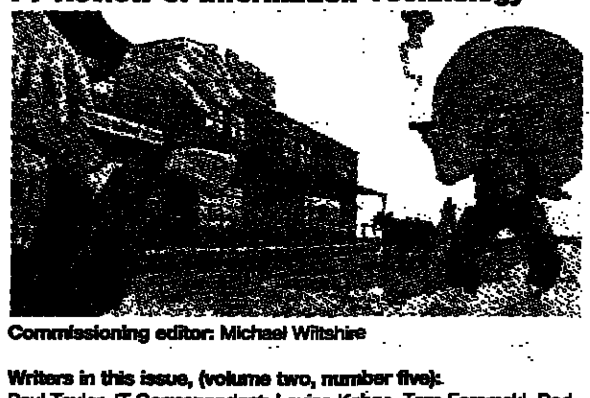

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Focus on Computers in Finance.
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Software: Accounting Packages.

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■ Equipment: personal computer 'servers' • By Geoffrey Wheelwright

Suppliers race to build alliances

Key players in the market for up-market personal computer 'servers' are working hard to outdo one another in building industry alliances that will give an edge to their range of products

Unlike the desktop computer market, where the specifications of one product in a given category are much like any other, there are real differences in the design of – and standards used by – PC servers designed to store large amounts of data for use over computer networks.

These differences can range from the kinds of network software supported and the back-up options offered to the way in which multiple processor capabilities – which can significantly enhance server performance by allowing a single server to use more than one computer processor – are implemented.

IBM, for example, announced in June the launch of "the IBM PC Server Compatibility Program" – described as "a set of co-operative relationships between IBM and selected providers of PC hardware options and applications".

The goal of the program is to test compatibility of other vendors' products with IBM PC Servers. Initial program participants include 3COM, Intel, Madge Networks, Mylex/Buslogic, Olicom and Standard Microsystems Corporation, (SMC). Meanwhile, arch-rival Compaq Computer teamed up with Intel, the leading computer chip-maker, to unveil an effort it is calling "Pacesetter '96" to conduct software integration and optimisation testing on Compaq's ProLiant 5000 systems, using Intel Pentium Pro processors.

In addition to testing and integrating their software on the new ProLiant platform, Compaq says "Pacesetter '96" participants are preparing evaluation reports to assist customers migrating or installing business-critical applications on the new ProLiant 5000.

The company says these evaluation reports will help customers worldwide obtain optimum performance, reliability and scaleability for their business-critical computing applications.

"Compaq, Intel and their partners have jointly conducted months of comprehensive testing to deliver the industry's most tightly integrated, optimised, reliable and powerful solutions for business-critical applications," claims Gary Stimac, the senior vice president and general manager of Compaq Systems Division.

"Whether the application is for the Internet or an intranet, transaction-processing or decision-support, with Pacesetter '96 Compaq has ensured that customers can immediately deploy enterprise-class applications on the ProLiant 5000 and Pentium Pro technology."

Intel, of course, is equally trying to get customers for server systems to demand use of its top-end Pentium Pro processors.

"Intel worked with Compaq on the Pacesetter '96 programme to give customers the best possible performance on Pentium Pro processor-based ProLiant systems running the enterprise solutions of these leading software companies," enthuses Dave House, senior vice president and general manager of Intel's enterprise server group. "We've accomplished this by providing these leading enterprise application vendors with early access to ProLiant 5000 systems to ensure their products are fully tested, optimised and integrated for the new SMP Pentium Pro processor-based systems."

Intel and Compaq are working on the 'Pacesetter 96' project

Participants in the Pacesetter '96 program include Andersen Consulting, Arbor Software, Autodesk, Baan, BMC Software, Computer Associates, FileNet, Informix Software, ISOCOR, Lotus Development, Microsoft, Novell, Open Text, Oracle, Price Waterhouse, LLP, SAP America, SHL, Sybase and ViewStar.

Meanwhile, Digital Equipment Corporation has earned a unique distinction with a new partnership it has established in Canada for server products based on Digital's Alpha computer processor.

Digital's Alpha 64-bit computer servers have been selected to host Canada's Internet Payment Processing service, the first Interac compliant home shopping and banking system.

The AlphaServer Model 1000 and 2100 systems will provide the computer power to run Canada's virtual shopping mall, including hosting retail and financial Web sites and processing consumer transactions.

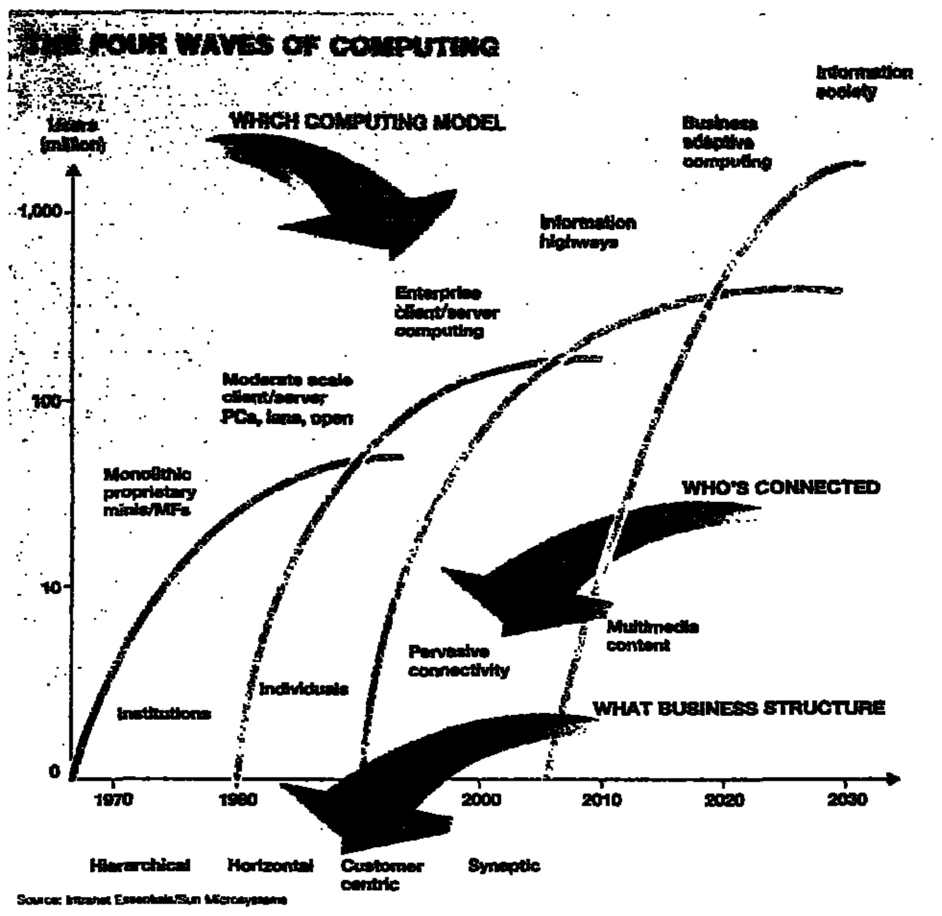
"We selected AlphaServers as the technology of choice to run Canada's online shopping because of its processing power and performance.

"One of the major components to our success will lie in our ability to provide the 'shopper' with easy and fast access," explains Gary Bartholomew, president of the Pay-Pro Network. More than 20 Digital AlphaServers will handle computer-intensive applications, such as database software and data warehousing, as well as running the service's Windows NT applications.

"Digital has been extremely visible as a leader in Internet computing. This established expertise along with the flexibility and power of the AlphaServer made it very apparent that this was the system we needed to build our service upon," says Wayne Simpson, executive vice-president of operations at the Pay Pro Network.

"The servers are well-equipped to handle multiple and multi-function transactions and contain the 'scaleability' that will allow us to quickly and easily expand our system as our retail and consumer-base increases."

Internet computing: recasting the dynamics of the software industry – see report, page 15



Source: Intranet Essentials/Sun Microsystems

The third wave of computing is where most corporations are today

■ Hardware developments • By Tom Foremski

More flexible routes for network growth

Stackable hubs allow network equipment and users to be added without disrupting the whole system

As networks become more important to businesses, companies that provide networking equipment – such as hubs, routers, switches and bridges – are trying to make it simpler and less expensive to set up and manage networks, especially for smaller offices.

One important trend is in stackable hubs. These hubs connect local area networks (Lans) and act as the connection between Lans. They used to be fairly formidable pieces of equipment, requiring a reasonable amount of expertise to set up and manage. But this is rapidly changing as companies bring out stackable hubs. These can be as simple to use as plugging in wires and running installation software.

Stackable hubs are a cross between the more complex and larger chassis-based hubs and simpler stand-alone hubs, with some of the best features of both. Stackable hubs are available for all types of network such as Ethernet or Token Ring. They have a small footprint, which makes them ideal for smaller organisations and offices. And they can be combined to grow with a company and allow users easily to expand their networks.

As their name implies, stackable hubs can be stacked on top of each other as the need arises. They are also easier to manage: a stackable hub might cost about $45 a user compared with the less versatile but cheaper stand-alone hubs at about £20 a user, but much less than a chassis-based hub, which is designed for larger numbers of users and may cost as much as £100 a user.

Improvements in network management software mean that users can add stackable hubs and manage them as a single entity, able to spot problems before they arise, and make it easier to configure the network for new users.

Vendors

Stackable hubs are available from several vendors with some of the more popular products coming from companies such as 3Com, Hewlett-Packard, Bay Networks, Standard Microsystems and Digital Equipment Corporation.

3Com is a pioneer in providing stackable hubs and it plans to launch a new generation of its SuperStack stackable hubs in August. These hubs will have several new features, including electronic port switching for adding users.

The company is confident that port switching will be a popular feature, especially among customers that have to add or remove large numbers of users on a regular basis.

"One of our customers is a large petroleum company and every year about 75 per cent of its headquarters staff move as it brings in people for training. We will be the first with port switching at a breakthrough price, which will make it easier to add users to the network and also save on staff costs in terms of managing and maintaining the network," says Edgar Masri, vice-president and general manager at 3Com's premises distribution division.

Other new features will make the hub more robust by including a hot-swap capability that allows users to add network equipment and users without disrupting the entire network, says Masri. And improved remote monitoring software will also be available to track network performance, spot potential problems and identify which components in the network need repair or replacing.

Standards

3Com recently joined with IBM and Bay Networks to announce a common set of standards and specifications that will make it possible for users to mix and match network equipment from different vendors without compatibility problems. The common specifications cover routers, hubs, inter-networking and ATM (or asynchronous transfer mode) technology for building very fast networks.

"This inter-operability announcement will enable customers to select and integrate best-of-breed technologies that will deliver the performance and quality of service essential to next-generation applications," said Andy Ludwick, president and chief executive of Bay Networks.

"As networks become more complex, customers face increasingly difficult issues related to standards and compatibility," said Nick Lippis, president of Strategic Networks Consulting.

"This announcement provides a forum for addressing these inter-operability challenges and is a welcome move for the industry."

Masri says that technologies such as ATM will help companies build fast Lans that can handle multimedia data such as large video, graphics and

Continued on next page

Evolution of computing

Since the beginning of professional computing there have been three distinct ways of building computer systems – these have been 'waves' of computing which began with mainframes alongside dumb terminals; the second wave was the mini-computer.

The third and current wave is typified by PC-based networks, connected through centralised data repositories.

In a new guide* called 'Intranet Essentials', Sun Microsystems says the next wave of computing is the Intranet, defined as 'deploying Internet technology inside an organisation'. An Intranet needs no link to the global Internet. Much of the technology that allows organisations to build Intranets is rooted in the Net and the World Wide Web. Recent estimates suggest there could be 500m Internet users by the year 2000, compared with 60m today.

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The financial sector is the largest user of advanced business networks. Support services can account for about 35 per cent of IT spending, according to analysts at Dataquest. Many companies spend more than 50 per cent of their IT budget on external and internal support services

■ Managing the network • By Tom Foremski

Support services do not come cheaply

Planning for a network failure is an important task which some companies fail to carry out adequately. There is also a need to measure the true effectiveness of company help-desks

To make the best use of a network, companies must make sure that they can support their users through help-desks and have the necessary staff and tools to help manage the network.

As companies grow in size, their networks become increasingly complicated as new users are added, other users leave the company, and as the capacity of the network is upgraded with new equipment from multiple vendors. And there is the issue of emergency planning in the event of a network failure which could bring a company's business to its knees if the network cannot be restored quickly enough.

Help-desks are a key component of a business network. Users typically have various levels of computer expertise and even the best-trained staff often need to talk with an in-house expert to solve the inevitable problems that arise.

But support services are a big expense for companies. US market research firm Dataquest, says support services account for about 35 per cent of IT spending and that many companies spend more than 50 per cent of their IT budget on external and internal support services.

"What we see with clients is that as network activity increases, activity related to help-desks also increases, but help-desks can often be overlooked as a key factor," says Don Cleavinger, chief technologist for the information services and communications group at EDS. Cleavinger says that EDS offers help-desk services for clients and has developed a methodology that makes them more effective.

"We have seen many mistakes, such as when there is a system upgrade, the help-desk people are sometimes not informed of the changes and so they can't help users with their problems. There is also a necessity to set up metrics to measure the effectiveness of the help-desk, otherwise you cannot judge how useful the help-desk is to the organisation," says Cleavinger.

The popularity of the Internet has led to new approaches to help-desks which take advantage of different time zones. Astea International is offering client/server software for setting up world wide web sites that will route calls from users to a help desk. If an end-user in London, for example, has a problem in the middle of the night, their call for help can be routed to a help desk in Australia where there are staff on hand.

World wide web sites are also useful in collecting information on fixes to common problems. Before talking with a help-desk expert, users can check a web site for information on solving their problem. Again, this is useful when help is required outside of help-desk office hours.

Problems in the network itself are another category which affects users, but is usually related to a hardware failure somewhere on the network. Fortunately, spotting hardware problems has become much easier with remote diagnostics software which can spot potential problems and locate where failures have occurred. In the past, it used to be a big task pinpointing where the hardware failure was, a task that become more complicated as a network grew.

These days, most of the components in a network have chips which identify themselves to the network management software and relay information about their current status.

Planning for a network failure is an important task which some companies fail to carry out adequately, says Kevin Bishop European and Middle East marketing manager at IBM Networking Products.

"The order in which you bring up a network after there has been a failure is important," says Bishop. "In some companies, the accounting department will say 'bring us up first, because we need to send out invoices or bills', but this is usually wrong. You can always catch up with the accounts and send out bills a couple of days late, but if the network serving your sales staff goes down, then you don't have any way of generating new sales because there is no way of catching up with lost customers."

Bishop says that IBM will perform an audit of a company's network to determine which parts are essential to the business and to put together a plan of recovery in the event of a network failure and recommend the best strategy for performing back-ups.

IBM also helps companies with the network infrastructure, where to place equipment and take other measures to ensure a 24-hour, seven-day operation. Staff are led through practice crisis trials so that when a big problem arises, the steps to be taken are more familiar and executed more rapidly.

There are trends in remote diagnostics software that make it easier to put together networks with a mixture of hardware and software from different vendors and have a single management system. Previously, network management software was specific to each vendor's networks, but now there are more industry standards and moves to improve things further.

For example, IBM, 3Com and Bay Networks recently said that they would co-operate on developing common specifications that will make it easier to combine and manage their respective network products within one heterogeneous network.

Although the alliance is partly aimed at allowing the companies to better compete with network market leader Cisco Systems which has its own proprietary network management software, the move should help the end-user as the industry moves to adopt standard specifications.

To be able to mix-and-match network equipment is a step forward and it will help to reduce the cost of installing and maintaining networks. Customers will be able to buy equipment based on features and price rather than being tied into one vendor because of possible compatibility problems.

While installing and managing networks is a high priority for companies, the cost is certain to be offset by the rewards of more efficient use of IT resources and better staff productivity.

Vendors target small office market

Continued from previous page

audio files. They will also help to ease congestion on networks.

Network equipment vendors are also looking at new markets, such as the rapidly growing small office and home office market, with products specifically designed for them.

Cisco Systems recently introduced a modem-sized Ethernet-to-ISDN router that can replace multiple telephone lines by allowing several office machines such as personal computers, telephones and fax machines to share one ISDN connection. Cisco says that the Cisco 765 and 766 routers are designed for small offices and telecommuters.

International Data Corporation (IDC), the market research company, predicts continued strong growth in the local area network (Lan) market, especially for switches, which are increasingly competing with routers as companies try to enhance the efficiency of their Lans. IDC estimates that the Lan switch market grew from \$350m in 1994 to \$1.5bn in 1995.

"Customers are clearly adopting large numbers of Lan switches to ease workgroup and backbone congestion," says Lee Doyle, analyst at IDC.

Router sales

Although high-speed switches represent strong growth in the local area network market, routers still hold a dominant position, growing in 1995 by 42 per cent to a \$3.7bn market and by 71 per cent in terms of unit sales.

Although switches are taking on the role of routers in acting as intermediaries between the backbone and the Lan, routers are in no danger of becoming obsolete.

Switches can be cheaper and easier to use than routers but router vendors report that customers are still buying routers but using them in different parts of the network in a complementary way.

■ UK jobs market

Network skills shortage

Demand will remain high at least until the end of the century, say researchers

Networking is now the area of greatest skills shortages – and is being made worse by the fact that technical knowledge alone is no longer enough.

That is the view of an industry already short of skills in different areas yet generally unwilling to train people in networking or offer them the right career path.

In the UK, skills and problem diagnosis tied as by far the biggest management issues in a new survey on local area networking by research firm Spikes Cavell for UB Networks.

In addition, almost 80 per cent of companies have had or are currently experiencing network skills shortages, according to recent research by recruitment group Delphi, again far more than those with staffing problems in other IT areas.

Demand for Novell networking skills grew by 47 per cent to more than 7,500 vacancies in the 12 months to March and by 11 per cent in the first quarter of 1996 alone, according to a quarterly survey of job advertisements by research firm SSP for trade journal *Computer Weekly*. There was similar growth in demand for Internet TCP/IP experience, while general local area network skills saw 22 per cent growth in the number of vacancies. Microsoft Windows NT came into the top 20 for the first time at number 11, with 45 per cent growth in the first quarter of 1996 alone, or 6,859 vacancies over the 12 months. These findings are reflected in the fact that Novell, Windows NT and TCP/IP are now the top three courses in demand at the UK's biggest IT training company, ICL's Peritas subsidiary.

"Networking skills will be in high demand at least until the end of the century," says Organisation and Technology Research (OTR). "It will be fuelled by large sustainable growth in the client-server market, growth in network products and services, underlying demand for jobs based on networked and distributed systems, the increasing power of supplier companies which aim their products at individuals and the desk-top, and commercial and political pressures concerning the so-called information highway."

OTR sees the number of organisations adopting client-server systems increasing from around 30 per cent to 70 per cent by 2000. Such statistics beg the question of where the people needed to fill the vacancies will come from.

Back-room technical jobs, typically designing, monitoring and running wide area networks linking scattered offices, offer new opportunities to traditional mainframe systems programmers, the highly technical specialists who know the inner workings of operating systems, according to Mr Clive South, a manager at recruitment group Software Personnel. These people saw only slow growth in demand for their skills in the early 1990s as companies switched to client-server set-ups.

However, most network activity is around the office, and IT people working here need another vital skill alongside their technical knowledge.

"The market needs people with technical experience but also the ability to talk to end-users," Mr South says.

"Users are naturally inquisitive if someone brings in a new workstation or adds networking to their PC. You can't blind them with science: you have to be able to explain the benefits and what the system does without going into bits and bytes."

People coming out of higher education or from schemes to develop Modern Apprentices and others with the higher levels of National Vocational Qualifications are a source of skills here.

"Graduates these days are taught networking and personal computing and are increasingly also getting the necessary inter-personal skills," Mr South says.

Mr Paul Butler, a director of Peritas, says most of the people going through the Novell, Windows NT and TCP/IP courses

Paul Butler of Peritas: 'A high percentage of on-line students are paying for their own training'

are IT specialists being reskilled. Peritas offers both traditional classroom courses and online training combining self-study and discussion over the Internet, and Mr Butler says "a high percentage" of online students are paying for their own training.

Strangely, however, after all the training, these different groups of people can find themselves facing a career dead-end, with the result that they leave, taking their skills with them.

This is because they often end-up on the help-desk. This can be frustrating both to new graduates keen to develop a career, and to analyst-programmers who have gone for retraining after years of mainframe experience.

"It's a real problem," Mr Butler says. "The help-desk is supporting IT infrastructures, especially networking, yet it is seen as a dead-end, typically consisting of a supervisor and lot of people on phones. It has usually been regarded by companies as a necessary evil, located in a spare room near the IT department – and not taken seriously. Users often see it as no more than a barrier which has been erected to block their access to the IT department.

"There is a need to raise the professionalism and esteem of the help-desk, to give it credibility, both among users and as a career path. The staff need to be trained to handle calls professionally, to log problems and then monitor trends and establish an on-line knowledge base of common problems."

Mr Butler is optimistic about the future of the help-desk and therefore about its role in nurturing and retaining networking skills: Peritas help-desk courses are now seeing the third biggest growth in demand, after Windows NT and TCP/IP, and all these courses are "quickly booked solid".

"A year ago the typical help-desk salary was £11,000-£15,000, but far-sighted companies are now increasing the maximum to £17,000-£19,000," Mr Butler says. "In these companies, junior IT staff and those with some experience now see the help-desk as a good career move and a place to get good initial experience in IT products and problems."

□ *The Invisible Lan, by Spikes Cavell: 01635 550449; Delphi Group: 0171-440 2000; Peritas: 01753 868181; 0171-402 3574; Software Personnel: 01203 690966. Callers outside the UK delete initial zero and add international access code, +44.*

■ Network connectivity

Still in search of the missing link

As the number of remote network users grows, companies are seeking new ways to connect different technologies

Connectivity is defined by the *Computer and Internet Dictionary* – published in the US by Que – as "the extent to which a given computer or program can function in a network setting".

This points to one of the industry's biggest challenges, with which it has been struggling for more than a decade and which is not fully resolved.

For computers to function adequately in a network setting requires both compatibility of hardware and software and inter-operability of complete systems, enabling people and machines to communicate.

In spite of efforts by official and unofficial standards bodies, boosting connectivity continues to demand considerable attention from suppliers and users.

It means grappling with several different technologies, from local area network (Lan) equipment such as gateways, servers and routers through various types of communications software to applications such as email, groupware and electronic commerce.

System managers still have a maze of Lan specifications to negotiate. The announcement by Bay Networks, IBM and 3Com that they will form an "inter-operability alliance" to create common specifications could help bring order to the market, although at the outset the deal excluded Cisco, their chief competitor.

The connectivity challenge has become increasingly complex as more and more computer users work outside their company's main offices. Many employers have formed a policy of requiring staff to work at least some of the time from other places. These people need access to their corporate networks from remote branch offices, home offices, customer sites, vehicles or hotels.

There is another, similar set of problems associated with users accessing information from systems belonging to different organisations, such as the Internet and other online databases.

'The users of mobile computing are becoming more diverse, from fire engine crews to financial consultants. Some companies now have several thousand staff with remote access to their networks.

Supporting such a mass of remote users is both a difficult management task and potentially very expensive.

> Speed and security are crucial issues for systems managers

Mobile workers have often acquired their own modems, creating problems for the systems manager, who has no control of the hardware or the costs of its usage. Such costs mainly relate to telephone charges, especially if leased lines are involved, and to network support.

About 80 per cent of the cost of remote access relates to telephone call charges and only 20 per cent to equipment, according to Phil Crocker, a director of marketing for Shiva, a remote access product vendor. He emphasises the need to manage telecommunications cost-effectively.

A principal cause of high telephone call costs is that the IPX and SPX protocols used by most Lans based on Novell's NetWare were not designed to minimise call time.

The latest remote access software can have timers included to ensure that the use of telephone lines is optimised, network messages are minimised and routine updates are sent at off-peak periods.

Another cause of high costs is the tendency of users to make calls to suit themselves without thinking of the financial consequences.

"If mobile users call the Internet directly, costs will rocket," warns Crocker. "It is usually better for them to dial in to the corporate Lan and get a connection from there."

Network support costs are almost equally critical. "They could cripple a company," says Crocker. Ease-of-use is therefore a primary criterion in the design of remote access products.

The spread of ISDN (integrated services digital network), the international public digital network, has made data communications between many remote sites feasible and brought huge demand for remote access products and services.

Speed and security are the most important issues for systems managers who are seeking to provide remote access to their users, according to John Birbeck, managing director of the remote access division of manufacturer Bay Networks (formerly Xylogics).

Users are starting to move from dial-up modems and leased lines, which are expensive solutions, to personal ISDN routers running at 64Kbit/s, he says.

These systems give users bandwidth-on-demand, that is the right amount of capacity for the often relatively short periods when it is needed.

ISDN routers are often being chosen because remote access to a network and retrieval of data by modem or by ISDN terminal adapters fitted into a PC have proved too slow, especially for uses such as the transfer of complex graphics.

Pershing, the financial services company, has been replacing modems and leased lines with ISDN routers for the past two years. Paul O'Sullivan, communications manager, says routers are much more cost-effective and easier to support. He hopes they will be installed at all 60 sites on his network by next year.

Many organisations have reached remote access speeds of about 64Kbit/s, but want 128Kbit/s to deliver a more satisfactory service to their net

Continued on facing page

■ Multimedia networking • By Phil Manchester

Many hurdles to overcome

Data compression and ISDN links are improving the delivery of audio and video links over networks

The first wave of excitement about networked multimedia and its potential for new applications is being replaced by a more pragmatic view. Expectations have been lowered – partly because of increased exposure to the limitations of multimedia technology on the Internet and partly because pilot trials have not lived up to their early promise.

There are several reasons for this. The standard telephone network is far too slow for video and audio, both of which depend on time synchronisation. The alternative – the integrated services digital network (ISDN) – is still relatively expensive to install and maintain. And the software technology required to provide multimedia services is complex.

This is expected to change. The cost of ISDN connections is falling. Professional services companies are starting to offer both the software technology to handle multimedia content over networks and the support services to deliver it.

The growth of ISDN is crucial to the development of networked multimedia. The increased bandwidth of ISDN enables, for example, the possibility of reasonable quality digital video transmission across networks. This will make videoconferencing – and other multimedia services – viable.

Ernie Radowick, director of the entertainment operations group at EDS, the US software company, has high hopes for videoconferencing over the Internet.

"It is definitely one of the hot applications of the future," he says. "At the moment, the limitation is on the bandwidth of the network. But, as the bandwidth increases, we will see videoconferencing coming into its own."

EDS uses multimedia networking internally for distance learning. This allows it to cut training costs by broadcasting lectures over the network. Students can interact with the lecturer through a keypad.

Although it says this has proved successful, EDS sees a big gap between this and full networked multimedia services. Further improvements in telecoms infrastructure are essential.

"There are still heavy limitations on the availability of the network and there is a major investment needed in many countries to switch from analogue to digital communications," says Hartmut Goetz, managing director of EDS Germany.

He sees other problems with developing networked multimedia services: "There are issues over censorship, intellectual property rights, cross-border flow of information and billing.

"At the moment, there is no regulation on the Internet and no clear way that multimedia services will develop," Goetz adds.

Some companies are taking the bull by the horns and building services on the emerging ISDN structure at the same time as offering Internet services. The Signpost Multimedia Library, based in London, offers companies access to a broad range of multimedia clips – from high-resolution 'stock photography' to audio and video clips. It uses a range of ISDN services, including the Internet ISDN.

Richard Johnson, managing director of Signpost, says this was because he saw the need to provide a 'global' service from the start. He also thinks that the high profile of Internet-based communications has helped promote the advantages of online media: "Since we started Signpost we have seen that the online stuff has become less of a mystery and the Internet has helped.

"Although it is still a bit shaky when it comes to delivering good multimedia products, a lot of people have gone online and got a taste for the sort of thing they can get."

However Grahame Poulter, chairman of On Demand Information (ODI), a networked multimedia specialist, is sceptical about using Internet-based communications for graphics and video transmission at the moment.

"Video on the Internet is really not at all viable. People have been carried away by the hype and I think it is likely there will be a backlash.

"I suppose it *will* come one day – but the serious questions that need to be asked are when and how good the quality will be."

Installing an ISDN service is one way forward. Poulter says companies can install basic ISDN processing for a lower cost than they might think: "At the simplest you can put in a basic system for about £1,200 now. This would include £400 for the ISDN connection and about £750-£800 for an adapter board for a PC or a Macintosh."

ISDN lines come in two forms. The basic ISDN-2 service offers two channels, and the more expensive ISDN-30 offers 30 channels. ISDN channels can be combined to improve the throughput and further reduce costs.

"You can aggregate the channels so you can push stuff through much faster. This is called bandwidth on demand and means you can pick up as many channels up to 30 as you need. With video, for example, it might be faster and less expensive to use all of them," Poulter explains.

In addition to improving transmission speeds by using ISDN, graphics and video can be moved about more efficiently using data compression. There are well-established standards for data compression – JPEG for 'still' images and MPEG for moving images (video).

Transatlantic discussions: this PictureTel videoconference system allows business users to show documents, slides and make multimedia presentations

Until recently data compression was restricted to hardware – meaning you needed a special adapter board in the workstation to decode images and display them. But recent products also allow software decoding – reducing the cost significantly. Moves to upgrade data compression standards promise to improve performance even further.

"MPEG 4 is coming soon and that will push performance up. We also recommend dedicating a server computer to compression and decompression. You can send the data across a local area network and free up the workstation to do other work," says Poulter.

Advances such as this will help bring multimedia to the desktop at a reasonable cost and, when combined with faster, higher capacity networks, open the door to multimedia services.

It will be some time before full business-orientated multimedia services such as videoconferencing become viable through standard Internet connections. But the network technology is advancing quickly and pioneering companies such as Signpost and ODI are building the foundation for the multimedia services of the future.

Internet software tools: see report, page 15

■ Connectivity

European variations

Continued from previous page

work users. People who bought modems three years ago to achieve 28Kbit/s are now upgrading to routers with the aim of reaching 128Kbit/s.

The faster speed should be sufficient to cope with most voice, data and video applications currently available, but users will probably find other applications in the future which will make even higher demands on the technology.

Users working in places where ISDN services are not available are likely to feel increasingly disadvantaged. Germany and France are well advanced in the adoption of ISDN, but the UK has not moved as fast, and services in other European countries vary greatly.

The security of remote access depends on good management and the adoption of suitable products, particularly firewalls.

A new specification called Radius (remote access dial-in user security), being developed by the Internet Engineering Task Force, may create an open standard for remote access products. This would allow users to achieve a minimum level of security at a lower price, irrespective from which manufacturer they buy.

■ Planning a global network • By Marcia MacLeod

A complex route to customised solutions

Knowledge of variables in taxation, equipment imports and legal requirements in each country are among important issues

Installing a global network is becoming an increasingly attractive option for multinationals: not only is every office in every country linked together, but every office has the same software, with screens that look the same thanks to an identical graphical user-interfaces (GUIs). And any executive relocated to or visiting a different site can access the company's system.

But buying such a network is not easy; before the network is purchased, the company has to decide which equipment will be most suitable for all purposes and in all countries.

It also has to decide a number of variables, such as what version of a packaged software product should be used and what language it should be in. If English is not understood throughout the organisation, someone has to ensure the correct language is used for keyboards, software and manuals – but if kit is produced for Shanghai in Chinese, which do we need for English-speaking bosses?

There are service providers who claim to be able to take care of the total supply and installation of a global network. Few can do so without sub-contracting most services. International Telecommunications Services (ITS) is one, thanks partly to its parent company, the Sita group, which runs a global telecoms network for airlines, and partly to its extensive network of offices in 220 countries.

ITS can supply a customer's worldwide computer solutions – from main server machine and PC workstations to network technology, cabling, and software. ITS will buy what it does not make, through partnership agreements with a number of suppliers, such as IBM, Lotus, Cisco (a network router vendor) and Isocor (an X.400 specialist), or incorporate equipment supplied by the customer.

Pre-sales advice

But the real benefits of using a company such as ITS is the knowledge of global computer and telecommunications requirements: the service starts with pre-sales advice from one of the company's larger offices in Maidenhead, Amsterdam, Paris, Frankfurt, New York, Singapore and, soon, Switzerland and Italy.

"We use the pre-sales phase to work out all the parameters before the sale," says Christian Fournier, administration and finance director, "so we can advise clients on the way we will customise their solution.

"Does the customer understand, for example, that it is not possible to have a completely identical system throughout the world, due to restrictions on imports in some countries? Korea, for instance, protects its computer industry by forbidding the import of IT equipment if similar kit can be bought locally."

VAT recovery can be a big part of an ITS contract. Most countries impose VAT, one notable exception being the US. But VAT can usually only be recovered locally. If a customer insists on all invoicing being done centrally, VAT will not be recoverable in any country except that where headquarters is based. If ITS can arrange for each local office to be invoiced, then that local office will be able to reclaim VAT from its government. The difference can account for up to 25 per cent of the cost of a contract.

Knowing the duty variances in each country is also important. "If telecoms equipment is imported into the US, for example, duty could be 5 to 7.5 per cent higher than for computer equipment," Fournier explains, "so, if possible, we send equipment as computers rather than telecoms."

Legal requirements and other legislation, such as health and safety laws, must also be taken into account.

ITS ensures all of these factors are covered through one of its 22 project managers and its PDK (Project Delivery Kit), which sets out what has to be done, and how, in and for each country.

One project manager is assigned to a customer to facilitate provision and delivery of equipment worldwide, pulling everything together in the same way that a conductor manages an orchestra. The project manager, in turn, relies on regional project managers to deal with local requirements

Continued on next page

Interview with Robert Madge • By Paul Taylor

An unlikely entrepreneur

With the surge of interest in networking, the Madge group has been growing at an average of almost 80 per cent a year

Robert Madge, founder, chairman and chief executive of Madge Networks, is an unlikely high technology entrepreneur. A quiet spoken, somewhat enigmatic Englishman, his background before he became one of Britain's few successful technology pioneers included spells as a riding school instructor, architectural journalist and chess computer designer.

Today, he runs one of the most successful networking companies in the world and has become a passionate advocate for asynchronous transfer mode (ATM) technology which *he believes will power the next* generation of multimedia networks carrying voice, video and data to the desktop.

"ATM is likely to revolutionise the computer networking industry and the boundaries between computer and telecommunications networking," says Mr Madge.

Equally importantly, he believes that Madge has the strategy and 'product roadmap' to enable its customers, "to protect their investment in existing networks while ensuring a smooth and cost-effective transition to the ATM networks of the future".

However, when he founded Madge Networks in 1986 – using his Buckinghamshire farmyard stables as office space – he had little technical experience of networking. But as technical director and general *manager of Intelligent* Software, a UK software house and silicon chip designer, and general manager of Enterprise Computer, a PC manufacturer, he *did* understand the industry and chip design, in particular.

This was an important asset since much of what Madge does involves designing low-cost silicon chips to switch data streams at high speed. His aim in starting Madge Networks was to accelerate the introduction of networking to link PCs together and build his company into the world number one in switched networks, overtaking established leaders such as Cisco and Bay Networks. "Information is the raw material upon which organisations build their business," notes the group's latest annual report.

"How efficiently and cost-effectively an organisation shares information – both internally and externally – directly impacts that company's success. Computer networking is the electronic equivalent of a global delivery service – providing critical business information on a local, regional, and international basis."

While many other companies spotted the opportunity for building networking equipment, most focused on Ethernet, the industry standard technology. What Robert Madge realised was that International Business Machines had created another market by introducing its own 'token-ring' network technology – liked by corporate customers because of its robust quality.

So he made two bets: one that IBM would decide that a small British networking company with no track record posed no threat, and second that, in a industry where technology changes rapidly, Madge Networks could improve upon IBM's own product offerings.

The gamble paid off. Madge is second only to IBM in terms of shipments of token-ring networks and last year posted sales of almost $400m. Thanks to the surge of interest in networking, internetworking and the Internet, the group has been growing at an average of almost 80 per cent a year.

The company now employs over 1,400 employees worldwide and is expanding rapidly reflecting Robert Madge's belief that in order to be successful the company must operate globally, but still provide local service.

Viewpoint

Indeed, Madge has been accused of taking internationalisation to the extreme. Incorporated in the Netherlands for tax reasons, the firm has no single headquarters. Senior executives are distributed among its four main regional offices in the UK, US, Holland, and France where Mr Madge now lives.

"Not only do we have offices in 37 countries, but of course those offices are often in the process of change or moving so keeping track of all that level of activity is quite difficult," he admits.

Three years ago, Madge Networks was floated on the Nasdaq exchange and now has a market capitalisation of nearly $2bn, giving the group the financial muscle to enter the mergers and acquisition business to fill out its product port*folio or acquire new technolo*gies.

In November, Madge bought Lannet, an Israeli networking company for $300m in an all-paper deal which gives it access to switched high-speed Ethernet technology – seen as a stepping stone on Madge's corporate ATM roadmap.

As a result, Madge can now offer its corporate customers both switched token-ring and switched Ethernet which are both seen as staging posts on the way to ATM. Madge bought Lannet rather than try to develop *its own* Ethernet technology, mainly because of the time it would have taken. The window of opportunity in the networking market, like many others in the IT world, is too short.

The acquisition of Lannet was followed in January by the purchase of US-based Teleos Communications for $165m. Teleos, a private company, fills another important gap in Madge's product strategy and enables Madge to provide end-to-end switched networks for large corporations.

As a result of these deals, Robert Madge believes he has *positioned the group* to respond to customers' desires to move towards ATM, but without abandoning all of their investments in existing networks.

Madge Networks' customers generally recognise Lan switching of token ring and the *Ethernet as the fundamental* building blocks necessary to bring their networks easily and efficiently into ATM.

Switching, says Mr Madge, provides the logical and evolutionary course towards fully switched networks – tackling shortcomings such as congestion and performance degradation in existing networks, while providing a natural connection point into ATM.

Madge: his gamble paid off

Directions in ATM and multimedia: see reports, pages 9-11

Network costs • By Marcia MacLeod

Always the unexpected

Installing a network is a lot like moving house: if anything can go wrong, it probably will, and the total cost somehow always adds up to more than the apparent sum of its parts.

For although a network may not suddenly display rising damp, it does hide a myriad of potentially expensive requirements of which no-one, least of all the board-member authorising the purchase, is likely to be aware.

Take the software, for instance: cash outlay for purchasing licences only amounts to 14 per cent of the overall lifetime cost of computing, according to Patricia Ryan, European general manager of WRQ, a software house specialising in network connectivity products.

"Ongoing support costs account for 45 per cent of the total," she says. "To maintain a large network environment, the customer has to run a help desk. If it decides to upgrade software and it has, say, 250 PCs, the cost in terms of manpower to upgrade those PCs and support the desktop user can run to as much as 125 man hours."

WRQ believes that support per 'node' (PC) in a local area network (Lan) can reach $1,200 (£784) – or $300,000 for a 250-user network. By these figures, support costs will exceed the price of the desktop system within three years.

The desire to save money can itself lead to more expense. "When installing a network, people often look for the cheapest product for each purpose," Ryan points out. "This includes the cheapest PC, the cheapest database, the cheapest modem, and so on.

"But by doing so, the user is putting together a multiple-vendor installation, which means more time and expertise – and therefore money – must be spent on ensuring that all these different products from different vendors fit together.

Who pays?

"The interplay between products is important, but getting it right 'eats' time."

And some of the most costly hitches come when something goes wrong: whose product is at fault? Which maintenance contract is relevant?

"The cost in downtime and in fighting with the *vendor to* apportion ownership can be crippling," says Ryan.

Even the distribution and installation of software throughout the organisation can, according to a Gartner Group study, account for 17 per cent of total software costs.

The rot *can* be contained: centralising purchases instead of letting each department, or even each desktop user, decide what to buy, when and from whom will go a long way towards reducing expenditure and increasing efficiency. Not only will the problems of running multi-vendor systems be minimalised, but volume discounts, including blanket software licences, could become available.

Centralised purchases can also eliminate the problem of "over buying" software – buying packages which the company already owns and for which extra licences can be obtained cheaply. The Personal Computer Asset Management Institute in the US found that US companies, government and military organisations spent as much as $2bn on software they already owned.

A range of software products exists to help central network control. WRQ's *Reflections, for instance*, enables the PC to emulate the host terminal – to pretend it is a Dec, IBM, HP or other server – to enable every desktop user to access all corporate data from anywhere in the network.

Network security • By Louise Kehoe

Big rise in hacker break-ins

Software tools used by hackers to detect vulnerabilities in computer systems are becoming more sophisticated and at the same time easier to use

Network security is a rising concern for all Internet users, but in particular for businesses that link their internal networks to the public Internet, making them more vulnerable to potential hacker break-ins. The costs of network security are also increasing. Sales of security software and equipment are growing at about 40 per cent a year and are expected to reach $1bn by the end of the decade.

This, however, is only the beginning because businesses and organisations need the services of computer security professionals who can constantly monitor and update systems to close security loopholes as they are discovered.

By some estimates, one computer on the Internet is broken into every 20 seconds. US Defence Department computers containing non-classified but sensitive data were attacked approximately *250,000* times last year, according to the Defence Information Systems Agency, a Pentagon computer security force.

In an estimated 160,000 of these incidents, hackers succeeded in penetrating the computers.

"Hackers have stolen and destroyed sensitive data and software. They have installed 'back doors' into computer systems which allow them to surreptitiously regain entry. They have crashed entire *systems and networks,"* said Jack Brock, a director of the General Accounting Office, the investigative agency of the US Congress, in Senate testimony last month.

"At a minimum, these attacks are a multimillion-dollar nuisance to Defence. At worst, they are a serious threat to national security."

The risks of hacker attacks on business computer systems are more difficult to assess, congressional investigators found. Businesses are reluctant to report intrusions to law enforcement authorities "due primarily to fear of the marketplace and of government", *according to a recent Senate* staff report.

Companies fear a backlash from customers – and the stock market – if they reveal their vulnerabilities, the report says. "Company insiders confirm to the staff that they have experienced intrusions on a regular basis, but fear reporting them to the government or other agencies that might ultimately report them into the public record."

Industry surveys, however, provide some measure of the problem. A group of leading US computer security consultancies, for example, identified losses of $800m worldwide last year among clients in the banking and telecommunications industries, with half the losses in the US.

More than half of 250 US information security managers polled in February by the National Computer Security Association (NCSA), a US industry group, said they had experienced Internet-related security breaches in the past year.

The Computer Emergency Response Team at Carnegie Mellon University in Pennsylvania, says that the number of computer security incidents is growing as fast as the number

> 'One computer on the Internet is broken into every 20 seconds'

of host computers on the Internet. Each year, CERT has seen a big rise in the number of security problems. In 1988 there were only six incidents reported to CERT. Last year there were 2,412.

Part of the problem is that the software tools used by hackers to detect vulnerabilities in computer systems are becoming more sophisticated and at the same time easier to use. Programs such as Satan (Security Administrator Tool for Analysing Networks), which was distributed freely over the Internet last year, can be used by individuals with very little expertise to break into a computer network.

Similarly, Rootkit is a series of free software tools developed by hackers that allow an intruder to gain "root access" to networks and claim the security status of a systems administrator. Someone with root access can read, alter or destroy any data on the network.

Even as hacking tools become more *effective*, however, there are increasing numbers of companies with little expertise in computer security linking their systems to the Internet.

A survey by the Computer Security Institute, of San Francisco, found that more than 30 per cent of Internet sites in its sample lacked a "firewall", a program designed to prevent intrusions. This is an invitation to trouble, computer security experts warn.

Even systems with firewalls can be broken into, however. Security experts say that many of the firewall programs on the market offer little defence against a determined hacker.

Continued on facing page

Global networks

Continued from previous page

and ensure someone is always available, regardless of time differences.

All components of the network are delivered to an ITS staging hub in the UK, France, Germany, Holland, New York or Singapore. ITS can then gather all equipment before it is sent to each site, and set up a simulated workstation to ensure the system works before it is rolled out live.

Site installation may reveal problems which require local presence and knowledge. Firstly, cabling has to be installed before the rest of the equipment arrives, and this must be done according to local building regulations.

Requirements from local PTTs must be understood, as various countries have different rules as to what equipment can be connected to the telephone network. There may be labour laws requiring union staff to install cabling or other equipment and training may be required for the customer's local staff.

It is this local knowledge that gives a personal 'feel' to the biggest of multinational network installations.

■ Security issues

Rise in virus infections

Continued from facing page:

Moreover, to be effective, firewalls must be regularly updated as hackers develop new methods of attack. Systems administrators must also keep pace with a constant stream of "upgrades" and "patches" issued by computer and software companies in response to the latest hacker incursions.

Computer viruses – rogue programs that can disable a computer or destroy data – are another aspect of the problem. Sometimes planted by hackers, but more often introduced unwittingly into a computer network by a regular user, viruses are costing businesses billions of dollars in reduced productivity and direct losses.

Virus infections have increased almost ten-fold in corporate America over the past year, according to an NCSA study published earlier this year. NCSA estimates the costs of viruses to US companies and organisations will rise to between $2bn and $3bn this year, up from about $1bn last year.

Another important element of network security is encryption. By encoding electronic mail – whether it be a private message, a purchase order or a credit card number – computer users can ensure that even if their files are stolen or intercepted they will not be readable.

Currently, the US software industry is lobbying Congress to change export control laws that prevent the sale of strong encryption programs outside the US except in special circumstances.

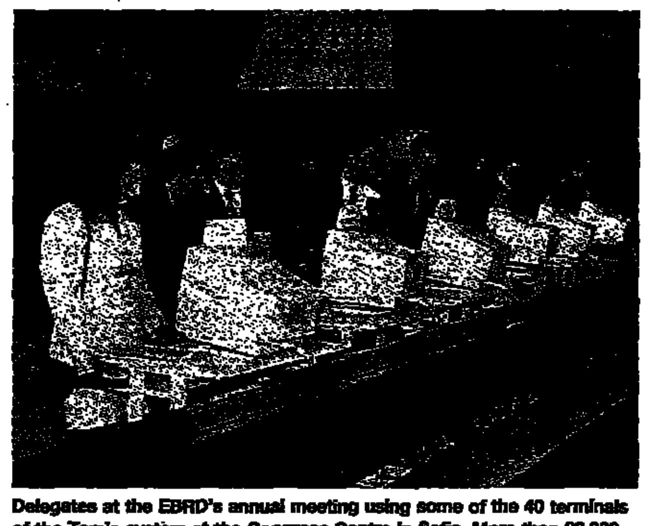
Authentication systems that ensure messages or documents passed over a computer network are genuine and have been sent by the person or company that they purport to come from, are also expected to become a standard feature of data network communications, particularly in electronic commerce.

Even as new security systems are developed, however, hackers keep finding new ways to circumvent them. Maintaining the security of data networks appears likely to remain a difficult and expensive problem for years to come.

■ Case study: European Bank for Reconstruction and Development

Intranet transforms communications at international summit

The EBRD deploys an Intranet at its conference in Sofia, Bulgaria, writes Rod Newing



Delegates at the EBRD's annual meeting using some of the 40 terminals of the Tamis system at the Congress Centre in Sofia. More than 20,000 messages were generated on the system in three days

The European Bank for Reconstruction and Development was founded in 1991 to help the east European and former Soviet Union countries in their transition to market economies. Each year it brings together 4,000 of the world's leading industrialists, financiers, government, economic and finance ministers and journalists to meet and discuss issues which are particular relevant to private sector development in the region.

The bank deployed an extensive Intranet at this year s international summit in Sofia. "We provided electronic mail to our delegates at last year's conference in St Petersburg," says George Kurczij, IT client services manager at the EBRD.

"The facility was more successful than we ever imagined, so we wanted to expand it this year. However, as we had no funds we had to invite sponsors to come in with us."

The Intranet was built as an international collaboration between several sponsors. Microsoft provided Windows 95, Windows NT Server, Microsoft Exchange, their recently launched Internet Information Server, Internet Explorer browser and Microsoft Mail messaging system, as well as expertise and development skills.

Wang/BISS undertook the development work, which integrated the Microsoft products with an Oracle database, the Novell network operating system, PCs from a Russian supplier and cabling supplied by a Bulgarian telecommunications company. "The whole system was designed and tested in ten weeks," says Mr Kurczij. "Time was of the essence, but everybody was committed. Integrating the different multi-vendor products proved to be quite a challenge. Another problem we faced was that Microsoft's Intranet products were still in the *beta* form, so there was little experience available on the most effective way to deploy them.

"We would love to have set the network up in advance, but there wasn't an opportunity. All the elements were thoroughly tested and then shipped to Bulgaria. We had five days to set up the network at the conference location."

Easy to use

There were 40 terminals provided for conference delegates – "it felt a bit like the first Apollo moon shot. We tested all the elements and then trusted that the system would work first time," he adds.

There was no opportunity to train users, so the system had to be very easy to use. Delegates signed on with a bar-code on their badge and were greeted by an image of themselves, scanned from their security photographs and retrieved from the Oracle database. The Intranet allowed delegates to browse for information on conference sessions, retrieve transcripts and translations, find out more about government schemes for funding, access the on-line conference newspaper and seek potential partners and contact them through the integrated messaging system.

"We had delegates queueing to use the system between sessions," recalls Mr Kurczij. "The most popular use was to allow participants to mail each other so that they could arrange to meet to pursue business opportunities. This is where the scanned images were so useful in allowing them to recognise each other."

The delegates generated 20,000 messages over the three days of the conference.

"An information system has become an established feature of our international summit," says Mr Kurczij. "The Intranet has given us a good start and has been a proof of concept of what can be done. We will develop it and enhance it next year. We will also build an Intranet in the Bank."

The e-mail address for George Kurczij, IT client services manager, European Bank for Reconstruction and Development, is: kurczij@ebrd.ebrd.com

■ Marketplace alliance in IT services • By Nuala Moran

A new model for outsourcing

Supplier companies suspend competitive instincts and pool resources to deliver 'a seamless service' for US bank

The US investment bank J P Morgan has created a new model for outsourcing by inducing competing suppliers to set up a consortium to manage parts of its global IT infrastructure.

The terms of the seven-year, $2bn contract, require the four suppliers not just to provide specified, discrete elements, but to work collaboratively, sharing their resources and technology, to deliver a seamless service.

Apart from managing activities that represent about a third of its $1bn annual IT spending, the bank says the deal will give it access to the technological expertise of all the partners to support new business and product development.

In effect, J P Morgan will be "having its cake and eating it" – getting companies that competed for the recent contract, and will compete again for the next – to suspend competitive instincts and pool resources on its behalf.

The parties to the deal, Computer Sciences Corporation (CSC), Andersen Consulting, AT&T Solutions and Bell Atlantic, have set up the Pinnacle alliance with J P Morgan as the collaborative vehicle to run the contract.

Pinnacle will manage the bank's data centres in New York, London and Delaware, distributed computing operations, including desktop computers and local area networks, and voice and data centres in New York, Delaware, London and Paris, and some corporate applications in the US and Europe.

Jean-Michel Deligny, principal of the consultants Broadview Associates, says: "The way this deal is structured will enable competitive tensions to be overcome. Although the collaborative element is being stressed, in fact responsibility for particular parts of the infrastructure is defined by the contract."

The 900 employees (45 per cent of the bank's total IT staff) working in outsourced areas are transferring to the supplier companies, though JP Morgan did not reveal how many will be allocated to each. The bank expects to cut its IT costs by 15 per cent over the life of the contract.

Peter Miller, co-head of corporate technology at J P Morgan says: "We want world-class capability in all areas of technology. While we had some ourselves, it is not realistic to think we could be best in all areas. By the same token, no one supplier can meet the growing technology needs of our global business."

J P Morgan threw down a challenge to the marketplace to come up with a joint bid. "Our idea was to push suppliers' thinking to see if they could come up with a best-of-breed approach," says Mr Miller.

John Mickel of CSC was responsible for bringing together the team members to bid for the Morgan contract. Mr Mickel, now the lead executive of Pinnacle, says "the alliance marks a new approach in providing sophisticated technology support services."

Whatever the hype, or the aspirations, on the face of it this deal looks like a traditional prime contractor/sub contractor agreement, with CSC as the lead company. All members of the Pinnacle Alliance will remain on the payroll of their original employers.

However, Mr Mickel claims it will not be a case of each company delivering its part of the contract with CSC overseeing the whole. "Staff will work exclusively *for* the alliance, and will be formed into cross-company, multi-disciplinary teams. Everyone involved will have Pinnacle on their cap badge," he says.

This perception is shared with the other partners. Stephen Racciopo, a regional manager for financial services at Andersen Consulting says: "There are real and important differences between a prime and subcontract deal and Pinnacle. We have an agreed a set of principles, on how we operate, and how we share people and knowledge."

It was not possible to make the Pinnacle principles legally binding, but Mr Miller argues that, in any case, it was not necessary to do so – "there is a lot of peer pressure to behave well. In this alliance it will not be accepted behaviour for people to do finger-pointing".

Executives from each of the suppliers will have equal access to senior people in J P Morgan through the alliance's operating team. This team will be responsible for allocating resources and managing the activities of the alliance.

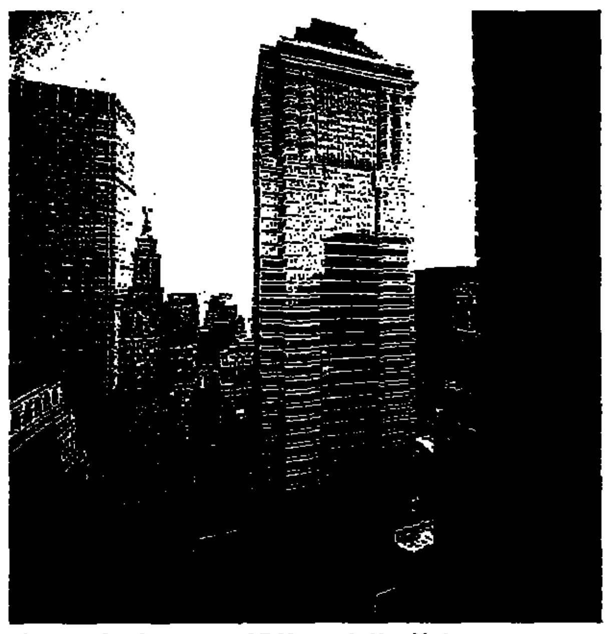
"The formation of a management team, made up of key executives from all the companies, is a 'first' for a technology services agreement," claims Mr Mickel.

The companies believe that the equal standing they have in the operating team, along with the principles, will smooth away competitive friction. "We will share risks and rewards. We all recognise that the real value will come from us being willing to reach into our collective knowledge," says Mr Racciopo.

He accepts, however, that this deal does imply some loss of control. "Obviously there are competitive implications of, say, sharing software tools. But we do have intellectual property rights, and we also look at any risk from the point of view that we are not leaders because we stand still."

Whilst they have risen to J P Morgan's challenge to collaborate, the companies do not want this deal to be read as an acknowledgement that single suppliers cannot meet the outsourcing requirements of multinational companies.

"Not every client would want an alliance," says Mr Racciopo. "Collaborating on this deal does not affect our ability to deliver a full range of services to other customers."



The world headquarters of J P Morgan in New York

■ **Securities settlement:** the arrival of Crest • By Nuala Moran

Not a moment too soon

The ghost of Taurus, the UK's abandoned system for paperless share settlement, will be laid to rest later this month when the new Crest equity settlement system goes live – delivered on time, and to budget

Crest, the electronic securities settlement system, will usher in the beginning-of-the-end for share certificates, and comes just over three years after the Board of the Stock Exchange announced it was scrapping its attempt to eradicate paper with the Taurus computer settlement system.

Beginning on July 15, securities will be progressively translated from paper records, into an electronic format, or 'dematerialised'.

On August 19, the first transactions will be settled in Crest. The transition will culminate in April 1997 when the Stock Exchange's Talisman settlement system is due to go out of service, 17 years after it first began operating.

For the UK securities industry, Crest arrives not a moment too soon: all of its international competitors already have paperless settlement systems – "the UK industry needs Crest to stay in front," says Iain Saville, chief executive of Crestco, the company set up by the Bank of England to establish and run the Crest system.

"Having an outdated settlement system is like letting the sewers rot: people cope, but efficiency decreases."

The previous attempt to introduce electronic settlement was overwhelmed by the technical and political imponderables, as the Stock Exchange struggled to accommodate all the requirements, of all its members, into the functional specification of Taurus.

The resulting complexity and "requirements creep" was the undoing of Taurus, and in March 1993 the project was binned. The City still needed a new settlement system, but it could not afford a Taurus 2. Responsibility for developing the system passed from the Stock Exchange to the Bank of England, which appointed a task force and gave it two months to come up with a new proposal.

The task force proposed a technically simpler architecture – a basic settlement engine with none of the frills that hobbled Taurus. But perhaps more significantly in winning acceptance, while Taurus would have forced shareholders to give up their paper share certificates, Crest does not. Shareholders who choose to keep their share certificates will be able to buy and sell shares in exactly the same way as they do today.

Although paper-backed transactions will be more expensive, Mr Saville said this is not deterrent pricing, but a reflection of the extra costs of handling paper.

Following approval of the task force proposal, the business requirements for Crest were finalised in May 1994 and the development of the software, (with the development process audited both by the Bank of England's internal auditors and Price Waterhouse) was completed by December 1995.

In that time, Crestco grew – from six employees of the Bank of England, working on the Bank's premises, to a staff of more than 120 with offices near Tower Bridge, London.

The Crest system runs on Tandem Himalaya computers. Rather than operating them, Crestco has outsourced care of the machines to Hoskyns, part of Cap Gemini Sogeti, the computer services company which employs 20,000 people in 15 European countries.

Two dedicated computer centres have been set up in Vauxhall, London and Greenford, Middlesex. The system is designed to settle up to 150,000 transactions a day, involving up to 5m accounts.

> The system can settle up to 150,000 transactions a day. Network security is paramount

The Himalaya processors are scalable, allowing extra processing power to be added as required. The Crest computer will be available 99.5 per cent of the time – in other words it is allowed 10 hours downtime per year.

Similarly, rather than setting up and running the networks to link in the users, Crestco has drawn up the specifications and designated two approved suppliers, Swift and Syntegra.

Network security is paramount and one of the key requirements was the ability to authenticate messages, so that Crest is confident when transferring securities or creating payment instructions it is acting on valid instructions, issued by the legal owner of the securities.

Each user in Crest will access the system via a gateway, which will be, at a minimum, a personal computer. This will transfer data from the user to Crest, and support access to the system.

Mr Saville says the decision to outsource was "a question of focus". The Bank of England team at the core of Crest had experience of designing and building paperless settlement systems – "we decided early on to strip out things where we had less experience, and hand them over to suppliers who do".

The total cost of development and getting the system running to full capacity will be under £30m. (Although, never officially acknowledged, the outlay on Taurus is said to have been £75m).

Crest will cost £18m a year to run and, if it makes a profit, users will get a rebate.

As the Stock Exchange currently has an income of £55m a year from the Talisman system, the securities industry will see its processing costs fall dramatically.

But that is not all: by moving to rolling settlement (where all transactions are settled a set number of days after they take place), and delivery versus payment, (where the shares and the cash are exchanged simultaneously), Crest will reduce risk, and more significantly, put the UK industry on the same footing as its international competitors.

Crest has been financed through the private sector, with 69 member-firms contributing £12m in equity, and a £17m borrowing facility.

Despite putting up the money, the shareholders have no voting rights. Their views are represented by a steering committee, but full control of the project has remained with the Bank of England. This has enabled Crestco to decide on a functional specification and stick to it – unlike Taurus, where the Stock Exchange was running to keep up with the often-conflicting requirements of its members.

There have been criticisms that in avoiding the functional overload of Taurus, Crest has become too skimpy. Indeed, there are some functions in the existing Talisman system, notably report generation, that are not available on Crest. Instead, Crest will supply users with the raw data they need to do their own analysis.

Another criticism is that there are no links to the Seaq trading system. Rather than trades being transmitted direct from Seaq for settlement, they must be input to Crest by the parties to the bargain.

> The total cost of development and getting the system running to full capacity will be under £30m

While acknowledging that some users would like a single input, to a trading system, Mr Saville argues that only the legal owners, or their agents, should be able to move assets around.

However, details of all transactions will be transmitted directly from Crest to the London Stock Exchange to allow it to police the market and ensure that trades and settlement data marry up.

Shareholders in Crestco will be able to dictate future enhancements, as control of the company will be handed over to them once Crest starts operating.

Meanwhile, Mr Saville is "confident it will start on time" and that there will be "no alterations" to the transition timetable.

His confidence derives from the progressively more sophisticated trials that have been taking place over the past three months. These began on March 11 – just one hour behind schedule – with the 25 registrars that are responsible for maintaining company share registers. Following this were full scale trials involving all 260 participants in the system completed at the end of June.

But Mr Saville is not crowing about delivering a UK equities settlement system when the Stock Exchange failed to do so – "I don't regard it as some sort of triumph, just as a piece of good management," he says.

Top hats everywhere: the London Stock Exchange in 1880

The Transition Period

- Between July 15 this year and April 1997, registrars will face a huge data-input job as details of shareholdings are entered into Crest. A 'big bang' approach to beginning Crest operations was ruled out as too risky. But Crestco wanted to minimise the transition period to keep down the cost of running both Talisman and Crest – and to avoid the confusion for users of having to deal with both systems.
- In order to avoid building any links between Talisman and Crest, transition will take place security by security. During the transition each security will be settled either in Talisman or Crest, not both.
- Once settlement has transferred to Crest for a particular stock, it cannot be settled through Talisman. This means all industry participants will have to be ready to use Crest from August 19.
- Although the institutions are keen to reap the cost savings of moving to paperless trading, until smaller shareholders can be weaned there will still be a large volume of paper in circulation.
- Crestco expects about 90 per cent by value of settlements to be electronic by the end of the transition period, but a much smaller percentage by volume. Dealings in any securities that have not made arrangements to settle in Crest by the time Talisman is switched off will have to settle through movements of paper between buyer and seller.
- For shareholders of equities handled by Crest who choose to stick to paper, share certificates and transfer forms will be moved from stockbrokers to registrars, with the movements co-ordinated with the electronic instructions. The haulage company TNT has established five centres in the UK and Ireland to provided a dedicated service to Crest.

How Crest works

- Crest will respond to electronic messages from members to transfer stock between accounts.
- It will authenticate the messages and compare the instructions input by the buyer and the seller – and match them.
- On settlement day, it will check the availability of stock and cash in the Crest members' accounts, and move the stock from the seller's account to the buyer's. The buying member's bank will be instructed to pay the selling member's bank and will be unconditionally obliged to do so.
- Crest will notify the stock's registrar who will commit to register valid transfers within two hours of the electronic transfer within the system.
- The contents of each member's accounts on the register, and in Crest, will be a mirror image of each other.

■ **Issues and options** • By Nuala Moran

Strategic IT development by the securities industry

Crest will put the industry on a new IT platform that can support wholesale changes in the way it operates

The spotlight may be on Crestco, but its work to deliver the system at the centre of the UK's new paperless equities settlement system has been matched by the efforts of the user-companies to link their computers to Crest.

Of two possible approaches: take what you have got and plug it in; or replace your entire settlement system with one built to be Crest-compliant, only the broker Hoare Govett has taken the latter option.

In part, this is the failure of Taurus casting a long shadow – many companies spent heavily on developing systems to link into this earlier attempt at an all-electronic system, money which was wasted when the Stock Exchange scrapped the project in March 1993.

"More important though, is the high overall cost of replacing existing settlement systems with new Crest-compliant ones," says Peter Little, managing director of the financial software company, Braid Systems.

It is also enormously complex and involves every corner of the organisation – "there must be a wholesale change of business practice and, for this reason, people are choosing to move existing systems to Crest. However, they see this as Stage 1 of a larger process," says Mr Little.

Braid has installed Crest systems for 12 companies including registrars, custodians and brokers.

Gerard Kenny, of the software house TCAM Systems agrees: "Many Crest participants have selected tactical, relatively cheap, front-end solutions to connect their older settlement systems."

While opting for the less complicated option of keeping existing systems, some companies have invested in very sophisticated front-ends to handle interactions with Crest – "this minimises the number of changes they need to make to their host computers, at the same time as allowing them to get the maximum benefits from the introduction of Crest," says Mark Freed, sales manager of Citymax.

The company has supplied its front-end software, called Arrow, to 20 Crest users. It also manages gateways into Crest on behalf of 12 clients, and so has good insight into the trials which, it says, "went well".

Mr Freed expects the successful delivery of Crest to prompt a wave of investment in new settlement systems. "Most of the industry is working on systems that are 10 to 15 years old, but they don't want to change them before Crest is bedded-in."

Mr Kenny agrees that a lot of companies have delayed upgrades until they have digested the move to Crest: "The more important strategic decisions will be taken once Crest has become 'a known quantity' and extends the range of services currently being offered."

One such issue will be deciding whether to amalgamate equities and gilts' processing systems when the Bank of England upgrades the Central Gilt Office to run on Crest software next year. Although the two systems will continue to be separate, it will be possible to access both through one gateway.

This example highlights the fact that while the safe delivery of Crest may mark the end of a saga, it is the beginning of a new phase of strategic IT developments by the securities industry. Crest will put the industry on a new IT platform that can support wholesale changes in the way it operates. Examples include links from Crest to other international settlement systems, or using Crest to handle other instruments such as unit trusts.

Iain Saville, chief executive of Crestco, says that enhancements to Crest would also allow the owners of the company to capitalise on their investment – "the cost of putting more business on to Crest is marginal, and so it would make sense to enlarge the scope of the instruments settled in Crest, and to enrich the range of facilities".

Mr Little agrees. "The lack of functionality in Crest has been an issue, but I believe it should be seen as positive. The industry now has a solid foundation, and can move on very rapidly and with confidence."

The challenge to the securities industry will be in agreeing how to develop Crest once it takes over control of Crestco from the Bank of England, later this year.

"There is already a wish-list of enhancements as long as my arm," says Mr Freed. "There must be someone strong at the top to take the enhancement-drive forward, or it will all start to get watery again."

Not a computer screen in sight: 29 years ago, jobbers and brokers throng the London exchange in June, 1967 Picture by Glyn Genin

The scene today: dealers at James Capel in London Picture by Tony Andrews

Anxious moments in 1987: dealers on the floor of the London Stock Exchange watch information screens as prices fall Reuter

Crest and the private investor

The next issue of the FT's Quarterly Review of Personal Finance – to be published with the UK edition of the newspaper on July 19 – will look at the impact of Crest for the private investor.

Crest will save millions for the big institutional investors but it could make life more expensive for many private investors – particularly those who decide to hang onto their share certificates. In theory, the move from paper to an electronic settlement system should cut costs, not put them up. But there are a number of reasons why many private investors will find themselves worse off once Crest is fully up and running next April.

■ Educational products • By Michael Dempsey

High risks in the race to market

Publishers are discovering that the development of CD-Roms for the 'edutainment' market can be a costly business

On March 25 this year the UK's First Information Group, FIG, went to market in a flotation that raised £8m from institutional investors.

FIG was formed in October 1993 and only released its first CD-Rom in November. This was an interactive educational product aimed at guiding viewers through the origins and progress of the First World War. As a multimedia product it contains interviews with historians, 25 minutes of archive film and a series of storylines which the viewer can select. Priced at £29.99, it was the first of FIG's current catalogue of seven CDs.

Eugene Miskelly, joint chief executive of FIG, is predictably bullish about his company's future – "this market is starting to explode," he says.

His confidence is based on the proliferation of CD-Rom technology. The drive to run a CD-Rom, with the necessary sound and video cards, has only become a standard PC component over the last two years. Prior to that, a CD-Rom drive was an expensive add-on.

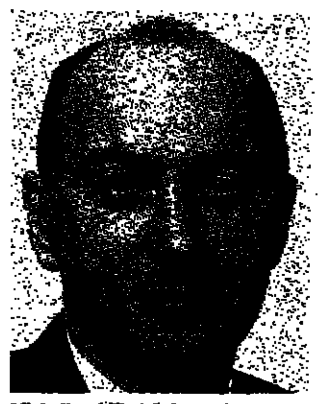
Optical Publishing Industry Assessment, a report from US group Infotech, talks of a huge market for its members' products, with multimedia home computers boosting the population of CD-Rom platforms to more than 400m worldwide by the year 2000. It follows that the number of programs sold to exploit this capability must run into billions of units.

"Edutainment", the awkward mouthful that characterises product lines from companies such as FIG, will account for 50 per cent of worldwide sales of consumer software by 2000, the OPIA says. These are the kind of statistics that could have every software house in Europe and North America rushing to launch titles – but this could be a costly mistake.

Tim Ashley, managing director of Wicked Web, an Internet consultancy specialising in Web advertising, has studied the rush to CD-Rom. He warns that while money can be made, the only areas likely to be safe are in established markets such as the serious educational sector that FIG has targetted.

"A lot of traditional publishers are not making money out of CD-Roms," says Ashley. He believes that when the development budget, as high as £250,000 per title, and packaging and distribution costs, accounting for 20 per cent of the price tag, are taken into account, it is too easy to lose money in the race to market with multimedia titles.

Miskelly is well aware that the nature of multimedia, combining voice and visual images with text, makes it totally different from book publishing. And he says Ashley's estimate of title development is on the low side: "We spend up to £500,000 on each title. It's a labour-intensive exercise – up to 20 people can be involved."


Miskelly of First Information Group: bullish predictions

The very attraction of a multimedia product introduces extra costs: rights for pictures, text, film and music all have to be paid for.

Ashley recalls fitting out a PC built around the now-outdated 386 chip, with multimedia facilities. "It was four years ago. I put sound-and graphics on a PC. The sound card cost £100 and the CD-Rom drive cost £400."

Ashley produced his multimedia at what was then a very good price, because he was willing to install the components himself – "this exercise still involved hours and hours of endless hassle". Today that capability is inherent in most new PCs.

The home market for PCs – often purchased for their educational value – is also driving CD-rom sales, says Pilar Cloud, general manager of Broderbund Europe, part of the $117m US software group that created Living Books to exploit the home multimedia market.

Living Books subsequently became a joint venture, divided between Broderbund and Random House, the largest general trade book publisher in the English-speaking world. Random House's contribution to Living Books is its vast catalogue of titles that strike a chord with parents who want to introduce their children to favoured authors via the latest technology.

Cloud agrees that it is easy to misjudge multimedia publishing. Having access to titles on the Random House list is one way to even the odds; heading straight for the biggest market is another.

"We've sold more than 2m multimedia units worldwide, a very high proportion of those, say 90 per cent, have been in the US," says Cloud.

Costing between $40-$60, these English language titles are at the core of profits made in this sector. FIG knows that international distribution is important, but in this business "international" means the US, in particular.

Ten per cent of the UK company's 110 staff work in Boston, pushing its "edutainment" line into a market that does not need technical amendments to the product. According to Miskelly, translating a CD-Rom into another European language costs around £40,000. Putting "talking heads" on a PC screen has attracted the public, but it means that a mere translation will not be sufficient for FIG's proposed French, Italian, Hebrew and German editions: voice-overs must be synchronised with lip movements when working in some languages.

FT IT Directions
Multimedia in education and entertainment

Economics

Some companies are mastering the tricky economics of multimedia CDs. The $199 Playstation, a system dedicated to playing the most advanced video games on CD, has been credited with transforming Sony's corporate loss of Y220.9bn for the year to April 1995 into a profit of Y138.2bn at April 1996.

EDS, the computer services giant, has launched Media Vault, a service for companies that need to archive footage of images from film and TV sources. The advanced database software involved means Media Vault can cost up to $200,000. But the aim is to create an archive of thousands of hours of footage that can be scanned for retrieval in short order.

EDS knows there is money to be made here, but it is a relatively new area – "we are in the process of identifying the boundaries of this industry," says Reza Jafari, managing director for global entertainment media at EDS.

Part of that process will see players getting it wrong before the dust settles. Investors should look carefully before leaping into multimedia adventures.

■ Computers in the classroom • By Tom Foremski

Big debate on US initiative

US schools are at the centre of a drive to provide children with more computers

Earlier this year Bill Clinton, the US president, and Al Gore, vice-president, took part in NetDay 96 which involved almost 18,000 volunteers installing network cabling in more than 5,000 of California's 13,000 schools. The organisers estimated the free labour was worth about $115m.

The event was part of the Clinton administration's call for more computer technology in the classroom. And although NetDay added a lot of cables to schools, it did not add computers or provide teachers with skills for using them effectively in the classroom.

The Clinton administration has succeeded in bringing attention to the need for computers in the classroom, but little is known about how effective computers are in teaching basic skills – raising the question of whether the exercise is simply throwing technology at the educational challenges facing US schools.

There is some evidence that students with access to computers do learn more effectively, but little on whether the computer skills they learn will help them in their future studies or career choices. By the time today's young students leave school there will be better computer platforms and perhaps they will not need to be familiar with the vagaries of Microsoft and Apple operating systems.

Late last year, Clinton visited San Francisco and announced his Technology Literacy Challenge, urging businesses, industry and local government to "make a commitment of time and resources so that by the year 2000, every classroom in America will be connected to the Internet."

The problem, however, is that computer-use in US schools varies widely. The US Department of Education reports that the ratio of students to computers is now about 10 to one but there are still hundreds of thousands of classrooms without any computers or with antiquated machines. For example, many schools still have large numbers of Apple II computers, which are five to 12-years old. And at least 50 per cent of the US's 2.5m classrooms do not have a phone line, let alone multiple phone lines for Internet use.


The Jason project: students around the world took part this year in a live, scientific underwater exploration in Florida Keys, in the US, via the first underwater world web site and 'telepresence' link, provided by EDS, the IT services group, in partnership with private industry

Response

Several large US corporations have listened to Clinton's call to become involved in modernising US schools with grants of money, equipment, services and teacher training. Pacific Bell, for example, is offering cheap Internet access to California's schools. Other leading US technology companies are involved in projects around the US, representing hundreds of millions of dollars in donations.

Some US corporations have realised they must go beyond simply pushing more computers into the classroom. US West Communications, a telecoms company, says it has invested almost $60m over the past seven years in educational programs, donations of equipment and services. It recently launched its Connected Schools initiative, which provides teachers with Internet access, and, more importantly, training and support.

"Our research showed some surprising findings about the usage of technology within schools. While computers are generally available, they are not fully utilised at the teaching level for students or to train teachers," says Jim Smiley, vice-president at US West. "Connected Schools will enhance the use of technology as a teaching tool by giving teachers access to curriculum building materials, increasing communications with other teachers, providing the ability to exchange e-mail messages with subject-matter experts, and opening the opportunity to participate in electronic conferences and online training."

Computer vendors are also angling for larger shares of the school market. Apple has traditionally held the lion's share of the school computer market but its lead is slipping as IBM PC-compatible vendors target this market. This competition is good news for schools in terms of discounts and financing.

Weak point

Although initiatives such as the one proposed by the Clinton administration are helping to bring computer technology into the classroom, school administrations are a weak point in the process. For example, the New York City Board of Education, which represents the largest school system in the US, has been making huge cuts in the number of staff who oversee the training of teachers in the use of computers.

And local school administrators are loath to spend funds on computers, even though some estimates put the four-year cost of equipping every pupil with a Pentium PC at just $1 a day per student.

The issue of cost is most important. School funding is at an all-time low in many districts, where it is a challenge to obtain money for textbooks, let alone high-tech items such as computers, modems and Internet access.

One way to decrease school costs is with used computer equipment. There are several non-profit organisations in the US that offer corporation tax write-offs when companies donate older computers to schools. The organisations will refurbish the computers and send them into local schools.

New technologies could also help by making computing more affordable. The network computer, for example, is a concept being widely promoted by Oracle, the database software company, and Sun Microsystems, the workstation manufacturer. These two have developed a specification for a network computer that could be sold for as little as $500 and provide full Internet access and the ability to run a variety of programs written in Sun's Java language.

Larry Ellison, head of Oracle, has spotted educational possibilities for the network computer and has teamed up

Continued on next page

■ The Information Society • By George Black

Complications delay birth

Market access, regulation, and intellectual property rights are among the problems that governments will have to resolve before the new world dawns

A year and a half after the Group of Seven ministers' first conference in Brussels on the "information society", that brave new world still looks a fair way off.

When it arrives, multimedia technology promises to deliver to the education and entertainment sectors many useful new systems, ranging from tuition by videoconference to online database access.

Last year's meeting in Brussels of ministers of the group of seven leading industrial nations aimed to assist in the birth of the information society and the superhighway on which it will depend.

To create such a society, governments have to sort out a number of extremely difficult issues. The G7 Industrialists' Forum, linked to the Brussels conference and comprising around 40 leading companies involved in information technology, has published an agenda for governments to tackle.

It covers the liberalisation of telecoms to introduce more competition and drive prices down, the opening of markets and an increase of free trade, and the establishment of cross-media intellectual property rights.

The 1994 report by European Industry Commissioner Martin Bangemann also listed encouragement of investment, open access to networks and data protection as key topics. To these many industry leaders would probably want to add data encryption and media ownership.

Among the main concerns of European governments is to ensure that the new world of multimedia is not totally controlled by US companies. They want to ensure that it yields a fair proportion of products based on European culture and European languages. They see an alarming precedent in the film industry, to which multimedia is closely related.

The G7's Brussels conference was followed by another in South Africa in May, extending the scope of the debate from the industrialised to the developing nations.

Meanwhile, the EU has launched a number of multimedia programmes and the Organisation for Economic Co-operation and Development (OECD) has also debated the subject.

So there is no lack of high-level talk. The official bodies have also put in motion a number of practical initiatives, from developing electronic libraries and museums to setting up a European education software taskforce.

Members of the European Commission are keen to establish an 'Open University for Industry'; the Commission has nailed its colours to this mast by designating 1996 the 'Year of Lifelong Learning'. One of its main aims is to draw attention to the inadequacy of existing educational facilities for equipping people to cope with the fluid job market of the future information society.

Mr George Hall, head of corporate affairs at computer manufacturer ICL, says the EU's programme has been very positive. "But," he adds, "there are a lot of conflicting interests and there is no easy solution to the problems. There is still a very large amount of work to be done."

Following the lead of the G7 Brussels conference, the UK government in February allocated around £35m to an 'information society initiative', over four years.

Under this initiative, a multimedia demonstrator competition was launched by the Department of Trade and Industry, with £3m prize money offered to the projects which best demonstrate the business advantages of multimedia products.

The DTI has also produced a set of multimedia case studies and plans to offer a number of creativity awards aimed at stimulating the development of digital products by businesses and students.

Through initiatives such as these, the barriers between sectors such as publishing, computing and broadcasting have begun to be broken down.

But bringing together regulated industries such as telecommunications and broadcasting with unregulated ones such as computing and publishing is bound to cause some friction.

Within the telecoms industry there are huge differences between countries. The US has meanwhile leapt ahead in deregulation with its recent telecommunications bill.

EU governments have been directed by the European Commission to deregulate their telecom markets by January 1988. This requirement looks likely to be met by all member-states, though some with reluctance, opening the door to more competition and lower prices.

For the entertainment and education markets, maintaining the right balance between the national carriers and the new entrants to telecommunications such as the cable companies is also important.

Partly as a result of lagging in telecommunications deregu*lation, Europe has fallen* behind the US in developing the multimedia industry. It has perhaps only a couple of years in which to catch up before the US starts to take the lion's share of the profits.

The European Commission, struggling to shift the Union into a stronger position, has issued a consultative document on property rights and is at present studying a mass of comments from interested parties.

Complex arguments are being conducted about the usefulness of software patents and the collection of royalties. They must be resolved as quickly as possible.

Mr Philip Virgo, planning executive of Eurim, a group which monitors Europe's information technology policies, says that Europe needs to solve the property rights question within the next 18 months – "otherwise the industry will migrate to where a legal framework exists, that is in the US," he says.

Already much of the database publishing business has migrated to a more comfortable climate, on US host machines.

Governments on both sides of the Atlantic have expressed their concern that the benefits of multimedia should be widely spread and not divide societies even more sharply into information haves and have-nots. How to ensure this happens is another tough problem.

A blueprint may be the South Bristol Learning Network, a project which was designed to introduce the latest IT into an urban poor community previously deprived of it.

Some 6,000 people have been trained through that project, around 80 multimedia roadshows have been delivered to local organisations and the network is being cloned in several others places around the UK. It is planned to start a similar scheme in Brussels and there is interest in the idea from all over the world.

The project indicates a possibility of building the sort of superhighway that US Vice President Al Gore has championed, driven by demand rather than supply.

US initiative

Continued from previous page:

with Michael Milken, the former junk bond king, to form Educational Technologies, which will develop and market network computers to schools.

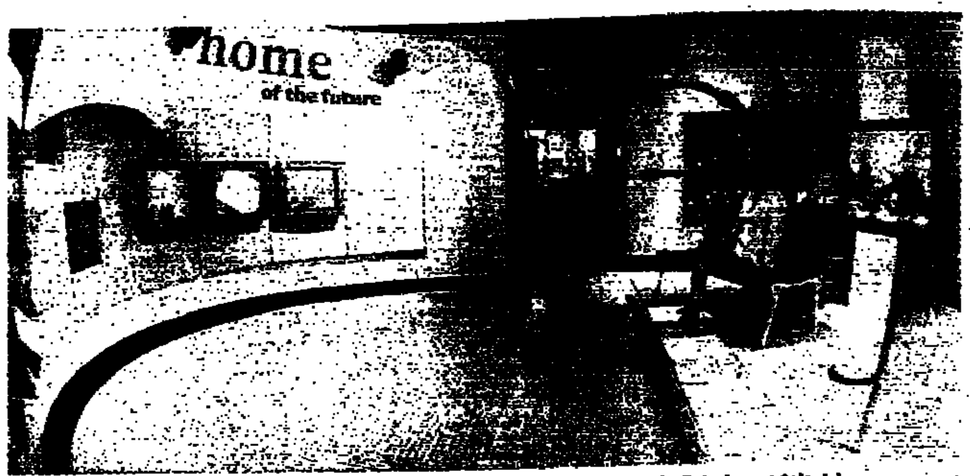
The huge growth of the Internet represents a great educational resource. For example, the Jason project *(see previous page)* allows students from around the world to follow the underwater explorations of a robotic submarine. Logging on to the Jason web site *(http://www.eds.com/jason/ecm10000 .htm)*, students can see videos of the underwater explorations, follow the work of science researchers and ask questions.

The Internet could potentially bring the world's best teachers to students and lower educational costs. And it underlines the fact that it is the application that is important, not the focus on technology.

■ Multimedia applications • By Nuala Moran

Wired-up home of the future

Exhibition brings together new systems for education, work, shopping and entertainment



Features at Granada's Futurevision multimedia exhibition include ICL/Fujitsu's flat plasma television screen and all-around-sound from an acoustic 'spider'

Multimedia – the ability to mix and manipulate sound, words and pictures, and pump them down a single 'pipe' – promises profound change. Services already on offer, such as financial services transaction and information kiosks, shopping on the Internet, or telephony over TV cable networks, provide unconnected clues to the impact which multimedia systems will have on the way we live.

It is now possible to gain a view of what life will be like 'when all the dots are joined up' at Futurevision, an exhibition of a multimedia future set up in the north of England by Granada Television at its studios in Manchester.

The exhibition, in celebration of the company's first 40 years, looks forward to the year 2056. Despite being opened by the famed futurist Arthur C Clarke, *Futurevision* is not about predicting future technology. All the technology and services on show – flat screen televisions, virtual pets, home shopping, exist now. What the exhibition reveals is what life will be like when these technologies are integrated, and commonplace.

"This isn't just a warehouse full of technology. It's designed to show ordinary people how multimedia will transform everyday activities such as shopping, learning and walking the dog," says David Stoves, business development manager for multimedia services at ICL, one of the main sponsors of the exhibition.

Visitors to Futurevision can 'virtually' try on clothes, relax in an 'electronically smart' home, savour the joys of interactive TV and anticipate the demise of classrooms as we know them today.

The 'virtual classroom' at Futurevision shows how, through the power of multimedia, students will be taught by specialists around the globe, who will not just be lecturing by satellite, but also setting project work and answering questions.

Classrooms will be linked, allowing students in different schools and countries to compare notes and work collaboratively. The virtual classroom shows how adults will be able to use technology to keep their skills up to date, and to learn new ones. The Futurevision piano has a small screen inset above the music stand from which an electronic tutor will supervise as you practise your scales.

As well as greater flexibility in learning, the reach of multimedia will increase flexibility on the 'where and when' of work. The mobile workplace demonstrates how multimedia will enable people to have exactly the same computing and communication facilities on the move as they do at a desk.

In the Electronic High Street, customised fashion shows give shoppers a view of how they will look in the articles they choose, removing the drawback of home clothes shopping. Cross-store price comparisons are also available.

Naturally, all payments are electronic, and if funds are short, the bank manager can be charmed via a video conference link.

As the creation of a television company, Futurevision naturally emphasises the effects that multimedia technology will have on broadcasting. Visitors can become participants in the television show *Telly Addicts*, direct how they would like the plot to thicken in a crime saga of their choice, and sell shares and buy jeans via the wide, flat, high definition TV screen hanging like a picture, over the mantelpiece.

"Initially, all this interaction is via a keyboard or a touch screen," says Mr Stoves. "But the aim is to update the exhibition as the technology becomes available, and it will not be long before most of this equipment will respond to voice commands."

Above all, Futurevision illustrates the way in which multimedia services will turn the home into fully wired-up sites for education, work, shopping and entertainment. It has also given participants food for thought on the joint business opportunities of multimedia.

■ Multimedia research • By George Black

Pioneer projects

Among UK projects pioneering the introduction of multimedia to the world of education and entertainment is the Cambridge Cable interactive television trial. Meanwhile, a British Telecom trial is seeking to establish the potential market for multimedia services, based on interactive television.

The Cambridge trial, which began in 1994 and has no fixed date of conclusion, is being run by a consortium involving Cambridge Cable, ICL and Online Media (owned by Olivetti, through Acorn Computer).

It is only one of a number of big multimedia trials going on around the world, but is probably unique among them in its sharp focus on the convergence of technologies.

It uses fibre optic cables to the kerb and coaxial copper cable from there to the user. A two megabits per second ATM (asynchronous transfer mode) link enables images to be received in a few seconds.

A group of 90 homes, ten schools and three businesses is being used to test what types of new multimedia services may be made available by cable. The trial's services manager, Alan Clarke, says the user group is not a basis for statistical conclusions but is "sufficient to bounce ideas and techniques off".

Participants have a choice of games, films, BBC and Open University TV and radio programmes, news and documentaries, as well as a number of retail and business services.

All of these can be accessed through a set-top box like a small video recorder. Later, the

Continued on facing page

■ ATM (Asynchronous Transfer Mode) technology • By George Black

Key to a high-speed future

While ATM offers rapid transmission for the multimedia networks of tomorrow, its application has met with delay


Faster communications: ATM technology allows data, voice and video to be transmitted at very high speed

The IT industry has been getting excited about ATM because it can send data, voice and video together at very high speed.

When ATM was first demonstrated in 1993, information was transmitted at 45m bits a second. Today, the IT industry has pinned its hopes on ATM (Asynchronous Transfer Mode) because it by far outstrips X.25 and Frame Relay in wide area networks, as well as Ethernet and Token Ring in local area networks.

Its standard speed is 155 megabits per second and its potential exceeds two gigabits per second. Large amounts of money are therefore being invested in ATM pilot projects across the world.

Networks will need ATM because most of them, from those of the international telecommunications carriers to those within small companies, are under severe pressure. They are short of bandwidth for their fast-growing numbers of users and ever more complex applications.

The solution is a fast packet switching technology which offers bandwidth on demand. ATM is best able to deliver that, but it is still an emerging, not an established, technology.

This year was widely expected to be the one in which it would reach maturity and capture a large share of the networking market, but analysts have been revising their over-enthusiastic forecasts.

☐ The US market analyst Forrester Research now thinks that ATM will remain a niche technology in Lans for as much as ten years, during which Fast Ethernet and Ethernet Switching will remain the norm.

☐ A survey by ATM equipment supplier Olivetti found many prospective users felt the lack of standards and of skills were serious obstacles to adoption.

☐ A study last year by the Ovum consultancy found that telecom carriers were delaying implementation because they were worried about losing revenue from existing narrow band services.

In the Lan arena, the recently emerged alternatives of Fast Ethernet and Ethernet Switching have proved more capable than expected and are delaying the move to ATM.

Fast Ethernet, at 100 Mbps ten times faster than Ethernet, can unlike ATM be installed without greatly changing the infrastructure. Ethernet Switching widens the Ethernet channel so that more information can be delivered at the same speed.

ATM is recognised by Lan systems suppliers as the best way for the long term, when those interim solutions become exhausted. Makers of Lan equipment such as routers, hubs and bridges are steadily incorporating more ATM capability into their new products. But at present the Lan market is still at the "early adopter" stage.

Visualisation

"There are few applications as yet which require the power of ATM," says Mr Mike Pilbeam, research director for network designer Cray Communications. "People setting up pilot projects find it hard to think of useful things that ATM could do."

ATM is ideal to support multimedia applications which must have guaranteed communications, such as medical videoconferencing.

Mr Mark Phelan, European marketing manager for ATM equipment supplier Cascade Communications, notes: "It is applications, which require visualisation, which will drive ATM into the Lan, but there are not many of these at present."

The ATM Forum, which has won general admiration for its pro-active approach, has been driving standardisation as quickly as possible and is spawning new acronyms at an extraordinary rate.

But, with a membership of around 500 companies, it is running into difficulties, both technical and political.

Considering that ISDN (Integrated Services Digital Network) took well over 20 years to achieve success as a public telecoms system, it is not surprising that ATM has fallen slightly behind its promoters' hopes. It is, after all, only 16 years old.

Mr Paul Trowbridge, European product marketing manager for Lan equipment vendor Bay Networks, says that standards created by the Forum in the past few months will help to stimulate the adoption of ATM as a Lan backbone.

He sees the establishment of a Lan emulation standard as especially significant. The Forum's User Network Interface (UNI) is gaining acceptance. The next steps will be to lay down the Multi-Protocol Over ATM (MPOA) and the Private Network to Network Interface (PNNI) standards.

Forecast

However, Mr Trowbridge concedes that, in spite of this encouraging progress, ATM will probably not reach the desktop for five to seven years.

In wide area networks (Wans), the prospects for ATM are similar: good, but it will take time. Competition for the established carriers from new entrants such as cable operators is increasing and is forcing them to look at ATM as a competitive weapon.

"The carriers are no longer an obstacle to the spread of ATM," says Mr Ken Davison, vice-president of marketing for Newbridge Networks, an ATM equipment supplier to the carriers.

European carriers, led by Telecom Finland and in the UK Energis, are starting to deploy ATM in their networks and offer services based on it. They are investing in it in the hope of saving money in the long term, as it should be a cheaper vehicle for delivering services than X.25 or Frame Relay.

Some of them plan to move their current services, including those based on the fast packet SMDS (switched multi-megabit data service) and Frame Relay systems, on to an ATM core.

"The carriers can use ATM to consolidate their services on to a single infrastructure," says Mr Mark Phelan of Cascade. However, in the US, carriers are mainly adopting ATM for new services rather than for transferring existing services on to it.

The current wave of mergers and alliances among the carriers is likely to speed up the adoption of ATM, according to Mr Davison of Newbridge. He says they will all need ATM in order to be able to offer faster and more powerful international networks. But at present the carriers are still proceeding rather cautiously with their experiments. As Mr Pilbeam of Cray points out, "no-one has yet built a large enough ATM network to be sure it works. There is still a lot to be learnt".

The massive growth of the Internet could prove a crucial factor in accelerating the spread of ATM.

Internet service providers are now in the process of installing ATM switches to cope with the fast-rising volume of traffic.

"The Internet is potentially the 'killer application' of ATM that people have been looking for," says Mr Phelan.

■ Business application • By George Black

Scottish Power plans a large ATM network

The company hopes it will improve the response to customer inquiries by having a mass of information available at the operators' fingertips

Scottish Power is building one of the largest ATM networks in the UK at its Glasgow head office.

The company is the sole supplier of gas and electricity to southern Scotland and, through its recent acquisition of Manweb, now an energy supplier to Merseyside, Cheshire and North Wales. It is also a new entrant into telecommunications.

It is installing an ATM network for 1,700 users in three buildings at a cost of around £1m, based on switching equipment from 3Com.

The new network is part of a move from ICL and IBM mainframes to a client/server, distributed systems environment, which is being undertaken to help the business cope with rapid change and expansion.

Inquiries

In April, a new customer service centre in Glasgow started to take over handling telephone inquiries from 1.7m customers.

This service involves highly graphical applications. Helpdesk operators can call down to their computer screens images of gas and electricity meters, credit cards or domestic appliances such as washing machines, to help them deal with customers' inquiries. Later this year they will also have access to images of customers' correspondence.

It was realised that these new systems would demand huge communications power and compel replacement of local area networks using conventional Ethernet structure.

The company therefore invited suppliers to bid for either an ATM or an FDDI (fibre distributed data interface) solution. FDDI is a token ring structure network running at 100 MBps, compared to ATM's 155 MBps. Mr Justin Leese, the company's network manager, says they knew that ATM was more powerful than FDDI but were not sure it was ready for the task. They were surprised that around a third of the 24 bidders insisted it was mature enough.

The solution chosen was an ATM-based bid by Workplace Technologies, a service company formed by a management buyout from ICL, the computer company.

Because of the risk, Scottish Power insisted that the equipment should all come from a single manufacturer to minimise compatibility problems.

It also laid down that there should be a fallback FDDI option, paid for by the supplier, in case ATM failed to meet the requirement.

The ATM switches will provide bandwidth-on-demand, or variable amounts of connection according to the volume of calls. Scottish Power hopes the new network will enhance its response to customer inquiries by having a mass of information available at the operators' fingertips. The network is designed to be easily expandable as the business grows.

German researchers move to ATM: see report, next page

■ Research projects

Services on trial

Continued from facing page:

trial may adopt keyboards with infra-red communications to the television.

Services for users are constantly changing: in April they were offered access to the Internet through their TV sets. Mr Clarke says the project managers increasingly regard the Internet, its subset the World Wide Web and interactive television as "parts of the same continuum".

Users are being offered Web browser tools as a front-end to interactive television to enable them to download whatever entertainment or information they choose. They are also being offered links between teletext pages and the Web at the touch of a button.

NOP Research Group has been recruited to the venture to assess the users' attitudes to the services available. Mr Clarke says it is very difficult to predict from the trial what sort of education and entertainment services will be viable because the technology is changing so fast. But he is confident that the experiment will help the participant companies to position themselves more effectively in the emerging market.

Another significant trial – being run by BT – provides several contrasts. It also uses ATM transmission but adopts the already installed twisted-pair copper phone lines. It is delivering services to users at two megabits a second via the ADSL (asymmetric digital subscriber loop) transmission system, which it says has proved "very robust".

BT reckons that its trial has offered the widest range of services of any such project worldwide. Around 2,000 homes and eight schools in Colchester and Ipswich, chosen to provide a representative sample, have been involved in the project, which was scheduled to finish at the end of June.

In this trial, the services have remained constant, the technology having been tested in 1994; users have been charged and prices have varied to assess their willingness to pay. BT will be studying the results this summer before making a decision on what services may be commercially viable. Analysts do not expect the general roll-out of these types of services to begin until at least 1998 and it will probably not become a substantial market until after 2000.

■ World IT Congress • Report from Geoffrey Nairn in Bilboa, Spain

IT companies in mid-life crisis

More casualties are likely as traditional IT companies battle against the new denizens of cyberspace

Do today's IT companies have a future? It is not a question the industry often considers, but this year's IT World Congress, held last month in Bilbao, Spain, caught many companies in uncharacteristically pensive mood.

The Internet is largely to blame for this mid-life crisis. Two years ago, when the last World Congress was held, the Net was an exciting new business opportunity. Today, it poses *a real threat to many* companies. Established software businesses see young upstarts achieve overnight success by offering free software on the Net. The traditional broad-based IT vendors fear many of their existing products and services will soon become obsolete.

Telecommunications companies could lose large chunks of their lucrative long distance voice traffic to Internet phone technology. For Nicholas Negroponte, IT guru and director of the Massachusetts Institute of Technology's Media Lab, this is just the beginning and the financial services sector could be next to succumb.

"In the next six months, we will see a lot more attention being paid to digital money," he told 1,200 delegates during his keynote speech at the Congress. In two to three years, he predicts, huge amounts of money could be circulating on the Net that have no connection with governments' monetary systems. Peter Cunningham, president of the US market research firm Input, estimates 3 per cent of large banks currently do business on the Net. "But their use is currently very passive, such as supplying information on products," he said.

By 2000, he predicts more than 90 per cent of the big banks will be using the Net for electronic commerce.

Jose Fonollosa, general manager of BBV, one of Spain's largest and most innovative banks, does not see retail banks disappearing overnight, although he takes the threat seriously.

"The problem is not the Internet, but the capacity of banks to understand their own customers. In most countries, going to the bank is like going to the dentist," he says.

Fonollosa believes conventional bricks-and-mortar banks can compete with virtual banking by using IT to improve customer service and reduce the costs of their branch networks. In ten years, BBV has cut the number of staff in back office functions from 25 per cent to 6 per cent of its workforce. That banks still have a future was welcome news for many in the Congress audience.

IT companies depend heavily on the financial sector and make handsome profits by encouraging banks to spend ever more money in a seemingly endless process of technological innovation. The benefits of this investment are often elusive – one anonymous IT director of a bank has called the extensive computerisation of banks in the 1970s and 1980s "the biggest bank robbery of all time".

Even information technologies companies admit that their users in the financial sector have not been well-served. "We commonly see that users are extremely frustrated with their IT investments," says Robert Gogel, vice president of the financial services division of Siemens Nixdorf.

The latest technology to disappoint is client/server computing: five years ago, banks and other users of mainframe computers were encouraged to scrap the "big iron" and downsize to decentralised systems based on the client/server architecture which, suppliers claimed, made applications cheaper and quicker to develop.

The reality is somewhat different, as Rosemary O'Mahoney, managing partner of Andersen Consulting, *told delegates* at a Congress session dedicated to this theme.

"Early expectations that client/server applications would be cheaper have turned out to not be well founded," she said.

The reason lies in the high cost of creating a support infrastructure to service the myriad machines and applications scattered through an organisation. *Data warehousing has* replaced client/server computing as the industry's favourite buzz phrase and it featured heavily in the presentations of leading vendors.

Jose Luis Solla, chairman of NCR for Europe, Middle East and Africa, presented data warehousing as a technology that "enables a paradigm shift to the age of the consumer". Nevertheless, it was the Internet that grabbed most attention at the Congress and, in particular, its graphical section, the World Wide Web, which levels the IT industry's playing field by allowing any company, large or small, to mount a "shop window" and compete in cyberspace.

Mike Zisman, executive vice president and chief executive of Lotus Development, said: "There has been nothing in the past 40 years that has transformed as much as the Web."

Lotus knows only too well about the Internet threat: in 1995, the company faced technical obsolescence and commercial oblivion as it suddenly realised it could not afford the cost of converting its proprietary Notes product to work over the Net. To fund the new development programme, it agreed to be acquired by IBM.

At the World IT Congress, Nicholas Negroponte said many IT companies had not yet grasped the revolutionary *nature of the Internet because* their middle-aged leaders are "less Net-aware than the average American 13-year-old".

While these "digital homeless" remain in charge, more casualties are likely as traditional IT companies battle against the new denizens of cyberspace.

Nicholas Negroponte, IT guru: bold predictions on financial services and the use of digital money

Topics in the next FT-IT Review

There will be no IT Review in August, but the September 4 issue will include the following main themes:

- ☐ Focus on Computers in Finance.
- ☐ IT Directions: Systems Support and Security.
- ☐ Software: Accounting Packages.
- ☐ International focus: Singapore.
- ☐ For more details of the September and October reviews, see details of the Fax-U-Back service, on page two of this current issue.
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■ Profile: European Commissioner Martin Bangemann • By Geoffrey Nairn

Pace-setter on the *infobahn*

The IT industry is often accused by its customers of promising much and delivering little. Martin Bangemann's job, as the European Commissioner for Information Technology, is to ensure that Europe is not similarly short-changed by the digital revolution

Martin Bangemann: applying the 'carrot and stick' approach Reuter

Building an information society is one of the greatest challenges facing Europe in the next few years, according to Martin Bangemann, but the transition will not be easy and the scale and speed of change threaten to catch many unprepared.

"IT is bringing about a new industrial revolution and we want to make people aware not only of the change going on, but also give them a sense of urgency," he says. The increasing globalisation of jobs and industries means Europe must act quickly to restructure its declining industries and improve competitiveness in IT and services.

"A culture that isolates itself from other countries will be dead in a short time. Jobs will get lost, but these jobs are already unproductive, and soon they will be replaced by new jobs," he says.

Bangemann has been a member of the European Commission since 1989; and since 1993 he has looked after industrial affairs and 'DGXIII', the EC directorate that embraces telecommunications, the information market and research exploitation.

He is perhaps best known for the 1994 Bangemann report, which attempts to explain where Europe has gone wrong in IT. The report rejects using public money to fund the digital revolution and instead puts its faith firmly in market forces. It calls for faster telecomms deregulation and proposes specific projects to stimulate demand and give the information society critical mass.

The report became a reference point for the industry and spawned a host of similar initiatives, most notably the Group of Seven Ministerial Conference on IT in 1995.

Bangemann recently installed an Information Society Project Office in Brussels to explain to a sceptical European public what the digital era will mean for them. One of his pet projects is the Bangemann Challenge – a sort of *Jeux sans Frontieres* for the digital age – in which European cities compete for the title of Europe's foremost IT city.

The DGXIII portfolio is highly technical, but Bangemann – who trained as a lawyer and has spent 20 years in German and European politics – is not the typical Brussels technocrat. He prefers to talk about the political and sociological problems of new technology rather than regulations and technical standards.

Healthy sceptic

"The most difficult thing to do is for a non-expert to give a speech to experts," he admitted to an audience of 1,200 industry figures at the IT World Congress, held last month in Bilbao, Spain. *He has a healthy* scepticism about the digital revolution and knows that "new" does not necessarily mean "better".

"Take information highways: highways should be faster and more efficient than small roads, but European motorists, especially Germans, know that is not always true," he says. Nevertheless, 'infobahns' are *the key to dragging Europe* into the digital age and the reason why the EC is so keen to liberalise Europe's telecoms market. Brussels can fund only a token amount of the Ecu 250bn required to build Europe's high-speed infrastructure, so the lion's share will have to come from the telephone companies.

Must will be privatised by 1998 and, with predators and shareholders watching, reluctant to bankroll the EC's dream of a universal wideband infrastructure. So Bangemann *has to apply 'carrot and stick'* in liberal dollops. The carrot is the hundreds of EC-funded R&D projects in areas such as teleworking or health care networks that aim to stimulate real demand for wideband services. The stick is the raft of directives that since 1990 have prised opened the more lucrative segments of the telecoms market and exposed the *monopoly carriers to competition.*

The experience has been traumatic and led to frequent clashes between Brussels and the state-owned monopolies. There are growing calls for the EC to "stop the clock" before pushing ahead with further painful reforms. Last month, Spain hinted that it might renege on its earlier undertaking *to respect the 1998 deadline* for full telecommunications liberalisation.

Bangemann is well aware of the industry's complaints but believes liberalisation cannot be postponed – "competition will be bitter in those situations where telecommunications was dominated by a monopoly, but telephone companies have to abide by the EC *directives*".

Even with his lawyer background, drafting and interpreting these directives is a legal minefield, and Bangemann favours setting up a separate European regulator to handle the increasing complexity of EC telecoms legislation: "We are not pressing too hard, as some member-states have problems [with this proposal], but *we will* get one," he says.

Bangemann believes mergers are inevitable if Europe is to improve the competitiveness of its IT sector and warns against a "Fortress Europe" mentality to protect weak industries.

European intransigence was *widely blamed for the US* walking away from the latest round of World Trade Organisation-sponsored telecom liberalisation talks in April.

"I was deeply disappointed with the breakdown," says Bangemann, who remains optimistic that an agreement can be struck before the revised deadline of February 1997.

As the countdown to liberalisation ticks away, Bangemann is working to ensure the new technologies will be relevant and accessible to all – "one of our biggest fears is [creating] a society with a new separation between 'haves' and 'have nots'," he says.

Big contrasts

The two-tier information *society* already exists. IT investment in Denmark was Ecu 624 per capita in 1995 against just Ecu 47 in Greece. Bangemann knows that it will be difficult to close this gap, but he believes the Internet and broadband technologies can fundamentally change the relationship between commerce and industry, improving the attractiveness of remote *areas and regions in decline.*

To illustrate this point, Bangemann quotes the example of Finland: "It's a small country, structured in a very difficult way, but it has built an advanced telecommunications infrastructure."

Finland has exploited this technological advantage to become an important node on the Internet. More notoriously, *it has a thriving cottage industry* of Internet remailers, which allow users to anonymously post child pornography and Nazi propaganda on the Net.

The issue of Internet censorship is complex and controversial, particularly in Europe where attitudes vary from country to country, but the EC is now looking actively at how *it might police the Net.*

"We do not want to over-act, but I do not believe that self-regulation will necessarily work," says Bangemann.

■ Case study • By George Black

German researchers move to ATM

The German Research Network – *Deutsche Forschungs Netz* – centred in Berlin and serving the country's universities, colleges and research institutes, is migrating to ATM technology.

In a project run by Deutsche Telekom and its subsidiary DeTeSystem, the network is moving to ATM from X.25 technology and removing leased lines.

DeTeSystem launched the ATM network, which uses General DataComm switches, at the CeBit exhibition in Hannover in March.

The network's deputy technical director, Mr Martin Wilhelm, says they concluded after a study that ATM was the best fit to their requirements for a broadband technology for the next three to five years.

"It gives us the possibility of dedicated bandwidth," he says. The existing network, which uses the TCP/IP protocols (Transmission control protocol/Internet protocol), does not allow bandwidth to be dedicated to specific applications.

This can cause problems for applications such as videoconferencing, when voice and video are sent together.

"The ear is not as adaptive as the eye and it is very disturbing to the concentration to listen to bad audio," says Mr Wilhelm. The alternative Frame Relay technology was ruled out as too slow. "We *must get up to 155 megabits* per second as soon as possible," says Mr Wilhelm.

The new ATM network will be integrated with the existing X.25 network by early next year. This will allow the elimination of many leased lines and thereby save money, it is hoped.

Of the 460 sites on the X.25 network, most of the larger *ones will move over to ATM. It* is expected that 60 sites will be on the ATM network by the end of this year. In the long term it is expected there will be links to research enterprises across the world.

German research groups will not be able to afford to replace their current equipment with ATM equipment all at once, so there is likely to be a lot of TCP/IP traffic on the network for several years.

Delivery of ATM to the researchers depends on the availability of compatible ATM switches. Mr Wilhelm hopes a standard will emerge this year to enable the network to invest in new equipment and make services available to users next year. Many potential uses, ranging from meteorology to museums, are "just waiting for the communications to arrive". As Mr Wilhelm adds: "If we offer a resource, people will find uses for it that we have not even thought of: we can only guess what they will be. It may grow like the Internet."

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PO Box 87, Farnborough, Hants GU14 6YU
Tel: 01252 382020 Fax: 01252 382380

Company Description
Superb communications unite the proven software skills of the Indian sub-continent with the project management expertise of British Aerospace to enable BAeHAL, an ISO 9001 software services provider, to deliver high quality, cost effective solutions to British Industry.

Hardware
Client Server, Mainframe and PCs.

Geographical Coverage
Europe, US and Pacific Rim.

Cost
Up to 50% less than UK rates.

29 - 30 Xylan UK
Victoria House, Desborough Street
High Wycombe, Buckinghamshire HP11 2NF
Tel: 44 1494 510993 Fax: 44 1494 538984

Headquartered in Calabasas, California, Xylan Corporation is a leading provider of high-bandwidth switching systems that enhance the performance of existing local area networks and facilitate migration to next generation networking technologies such as ATM. Its Omniswitch and PizzaSwitch products connect Ethernet, Token Ring, FDDI, CDDI, Fast Ethernet, and ATM, at wire speed, with automatic any-to-any translation. Low cost is coupled with powerful software features, including: Auto Tracker (TM) Virtual LANs; ATM PVCs, SVCs and LAN Emulation: Internal routing, RMON; and graphical network management on a broad set of management platforms.

Hardware/Compatibility
Ethernet 108100Mb/s, FDDI & CDDI, Token Ring, ATM

Geographical Coverage
Worldwide

XYLAN

31 Uninterruptible Power Supplies
32 Voice & Information Processing
33 Voice Recognition Software & Systems
34 Windows NT Migration
35 Worldwide Web

31 Universal Power Systems
Weldon Road, Loughborough
Leics LE11 0RN
Tel: 01509 261100 Fax: 01509 261148
E-Mail: 100770.3524@compuserve.com

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32 Brite Voice Systems
Brannan House, 4 Cambridge Business Pk
Milton Road, Cambridge, CB4 4WT
Tel: 0161 975 4044 Fax: 0161 975 4001

Brite Voice Systems is a world leader in providing voice and information processing solutions. Users include major corporate customers, call centres and network operators. Applications range from interactive voice response and computer telephony integration to a range of network services.

In addition to integrated system provision Brite can also offer it's customers the use of it's fully managed service bureau and it's experience in the telephony auditing arena.

Geographical Coverage:
International - offices worldwide
Applications:
Voice and information processing

BRITE

33 Vocalis Ltd.
Chaston House, Mill Court, Station Rd.
Gt. Shelford, Cambridge CB2 5LD
Tel: 01223 846177 Fax: 01223 846178

Vocalis is a world leader in speech technology and call processing applications, delivering speech-controlled systems that increase business efficiency and make communication easier. Products include a virtual telephone operator, a voice dialling system and bespoke applications for call centre transaction processing.
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VOCALIS

34 Insignia Solutions
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35 Industry Connect Ltd
Storrs Bridge Lane, Loxley, Sheffield S6 6SX
Tel: 0114 2852274 Fax: 0114 2853778
Email: marketing@indconn.demon.co.uk
URL: http://www.indconnect.com

Industry Connect specialises in providing businesses with a compelling and informative presence on the WorldWide Web. We have experience in the design, creation, maintenance and management of major web sites and virtual business parks. Our service will quickly introduce your organisation to this exciting new communication technology, cost effectively, whilst tailoring the benefits to your own particular needs.

Applications
Customer Service & Support,
Sales & Marketing,
Sales Promotion, Mail Order.

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22 Financial Systems, Recognition Systems
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25 Network Video
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28 Outsourcing
29 Software Developer
30 Software Development Intranet & WWW
31 Storage/ Optical & CD
32 System Management

هكذا من الأصل

Internet software • By Louise Kehoe in San Francisco

A rush for market dominance

"The Internet is a fantastic thing," says Bill Gates of Microsoft, the software giant. "It makes software and computers more relevant to what is happening in the world. There is something going on here that is very deep . . . "

Bill Gates, chairman and chief executive of Microsoft, has become one of the leading advocates of Internet software. His enthusiasm is matched only by his determination to achieve leadership in what is expected to be the fastest growing segment of the software market.

Microsoft's ambitions are, however, being hotly challenged by a hoard of new software ventures led by Netscape Communications which has captured an early lead in browsers – the programs used to navigate the World Wide Web and the most visible segment of the Internet software market.

Like the introduction of minicomputers in the 1970s and personal computers in the early 1980s, Internet computing represents a fundamental shift in information technology that is expected to bring broad changes to the IT industry and to users. Historically, no company that has dominated one generation of computing has dominated the next, largely because they have been too closely wedded to the legacy of their past success.

"Internet computing will completely recast the dynamics of the software industry," say analysts at Forrester Research, a US market research group. "Microsoft will loose its dominance," they predict.

Yet it may be too soon to dethrone Microsoft. Although Mr Gates acknowledges that his company is the "underdog" in Internet software, he is determined not only to catch up, but to overtake all competitors. Over the past six months, Microsoft has launched a fusillage of products, initiatives and acquisitions all aimed at claiming leadership in Internet software. Central to this "fight back" is Internet Explorer, the Microsoft Web browser, which it is making available free of charge via the Internet.

Through agreements with leading online information services and Internet access providers that will offer their subscribers Explorer software, Microsoft is quickly gaining on Netscape. Moreover, later this summer, Microsoft will introduce an upgraded version of Internet Explorer that is expected to match all of the features of Netscape's Navigator program. But the "battle of the browsers" is just the beginning – *see report, below*. These programs are quickly becoming the universal "user interface" for personal computing and thus become a challenge to Microsoft's core PC operating system business. Already, Netscape has described ambitious plans to transform its Navigator software into a complete PC operating system. Microsoft, meanwhile, has demonstrated a new version of Windows that incorporates a "browser" front end.

"The priority for us is Windows and making sure that Windows is the best Internet platform," says Mr Gates. "Netscape is taking a browser and growing it into an operating system. We are taking an operating system and integrating a browser."

Features

The latter approach will provide computer users with a "single interface"; software that will enable them to find files stored on a personal computer's internal hard disk in the same way as they currently access information on a remote Internet/intranet server," he explains.

Netscape and Microsoft are also racing to bring new features to their browsers both through their own efforts and by adding third-party functions. The latest version of Netscape Navigator, for example, incorporates "LiveConnect", a feature that can be used to glue add-on applications into the browser.

A sales manager might, for example, click on a button to send a query to a database and the results will automatically be charted by a plug-in program, explains Marc Andreessen, co-founder of Netscape.

Bill Gates: his ambitions are being hotly challenged AP

Other Netscape enhancements include LiveAudio and LiveVideo capabilities that allow users to view video and hear audio directly from Web pages without waiting to download files to a special "viewer".

Whatever technology advantages Netscape may achieve, however, it is unlikely to profit greatly so long as Microsoft is content to make its competing Explorer program available free of charge.

Microsoft is also giving away software for Internet "servers", the computers that store information distributed over the Internet and intranets, to purchasers of its Windows NT operating system. Netscape, which receives most of its revenues from selling server software, has had to slash prices on its basic server programs in response.

"Our business model works even if all Internet software is free," says Mr Gates. "We are still selling operating systems." Netscape, in contrast, is dependent upon its Internet software for profits, he points out.

Yet browsers and basic servers are only the starting point for Internet software. One of the next important battle grounds will be in "groupware" for the Internet and intranets; programs that enable people to work collaboratively over a computer network. In this arena, Oracle is claiming to be the first past the post. Last month the company announced "InterOffice", a groupware program designed to work with the company's Universal Server multimedia database, which it claims will provide all of the features of established products such as Lotus Notes, and more.

Similarly, Netscape is working on a new browser, code-named Galileo, that it says will match proprietary groupware features. Meanwhile, Microsoft and Lotus are rejigging their groupware products to incorporate Internet standards.

The most significant challenge to Microsoft's authority may, however, come from Java programming language and development tools from Sun Microsystems that enable the rapid development of "Internet ready" platform-independent applications. Since its launch last year, Java has taken the programming world by storm. Although even Sun executives acknowledge that Java is immature, it is in active use by thousands of developers, including dozens of innovative start-ups. These are "kids who are willing to live in the 'Big Mac zone,' as opposed to the 'Chez Louis zone'," says Scott McNealy, Sun chief executive. "They start from scratch, and now instead of just developing applications for the Windows world now they can develop programs for all sorts of computers and network access devices."

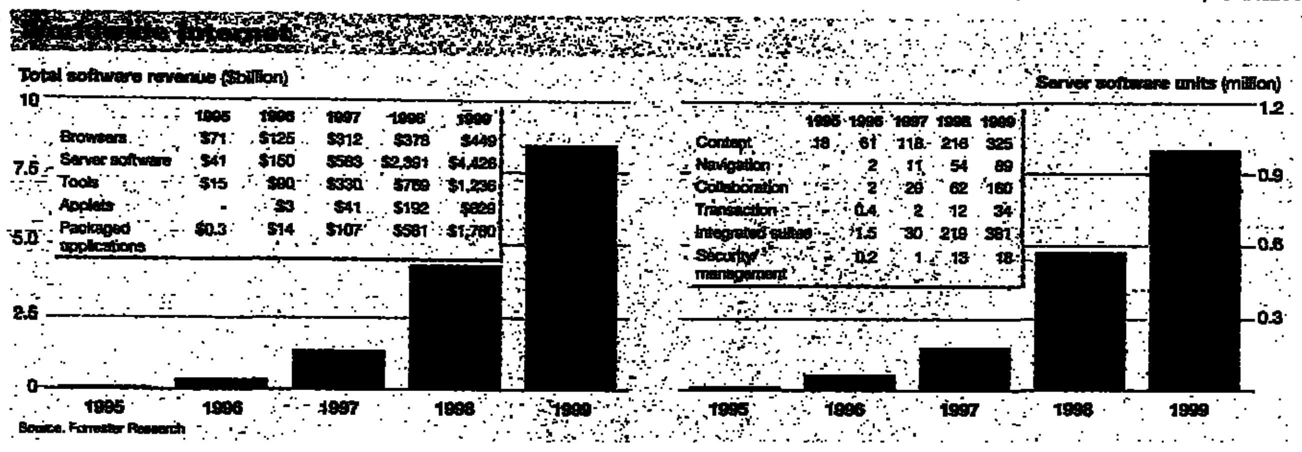
Predictions

Collectively, these start-up companies will overthrow Microsoft's leadership in the software industry, Mr McNealy predicts. He also hopes that they will help him to sell lots of server hardware to build "Java farms" – collections of computers that store and distribute applications to desktop computers on demand.

Mr Gates dismisses Java as "one of dozens of computer languages" that will be used to create applications for the Internet. Neither is he impressed by the idea that Java will fuel the creation of a new generation of downloadable applications. "There are 150m users of Microsoft PC programs, he points out – "just because the Internet is out there, it does not mean that people will throw away their applications."

Moreover, Microsoft itself is adapting to the network application model. Mr Gates suggests that in the future PC users may install only the basic functions of an application on their own computer and access rarely used functions via the network. Unlike leaders of the mainframe computer and minicomputer eras, Microsoft is responding quickly to the changes that threaten to undermine its success. With its greater resources and well-honed tactics for competition, it may yet defy the prophets of doom to maintain market dominance.

FT IT
Internet computing
Recasting the dynamics of the software industry



Total software revenue ($billion)

	1995	1996	1997	1998	1999
Browsers	$71	$126	$312	$378	$449
Server software	$41	$160	$583	$2,361	$4,426
Tools	$15	$90	$330	$789	$1,236
Applets	–	$3	$41	$192	$608
Packaged applications	$0.3	$14	$107	$581	$1,780

Server software units (million)

	1995	1996	1997	1998	1999
Content	18	61	118	216	325
Navigation	–	2	11	54	89
Collaboration	2	7	20	62	160
Transaction	–	0.4	2	12	34
Integrated suites	–	1.5	30	219	381
Security management	–	0.2	1	13	18

Source: Forrester Research

Internet server software • By Philip Manchester

Fresh challenge for software developers

The next 12 months will be crucial in the development of useful corporate Internet applications – and server software is a key component in its success

The spread of the Internet – and its internal corporate sibling, the Intranet – is forcing a fundamental change in computer software at every level. New, simple browser software, running on low-cost network computers, offers an alternative to increasingly complex Windows PC systems. Innovative software tools such as Sun's Java language promise to simplify application-building. And the hypertext-linked model of the World Wide Web provides new ways to organise and access information.

One of the biggest challenges facing software developers in the 1990s is to find ways to bring together these new developments from the world of the Internet with existing computer systems.

Internet/Intranet systems are, of course, a variation on the now well-established, client/server approach to systems design. Client/server computing separates the presentation software on the desktop from a range of 'back room' services – each under the control of a server computer.

Most people are now familiar with desktop 'client' systems, including the Apple Macintosh and the Windows PC. Typically, they have formidable processing power in their own right, local disk storage and can support a wide range of software. They call up server computers to access database files, communications gateways, printing services and, increasingly, the Internet. The Internet has introduced a new style of client called a browser (*see report, right*). A browser is a relatively simple program which is designed to 'navigate' the Internet using hypertext links.

Although client computers are important – the task of bringing Internet computing together with existing systems happens on the backroom server. Server computers must be able to cope with requests from many different client computers at the same time. They need a different kind of software to that found on the desktop.

Until recently, the Unix operating system has been the mainstay of Internet server computers. Sun Microsystems, the leader in the Internet server market, uses a version of Unix on its systems and other suppliers such as Hewlett Packard and Silicon Graphics use variations on Unix, too.

But this is starting to change. IBM, for example, has re-positioned its traditional mainframe systems as general-purpose servers. Earlier this year it re-packaged a wide range of computer resources and services as 'software servers' to meet the new demands of the market.

"The Internet and Intranet are powerful ideas for new applications and we have to respond to the demand for new applications and greater productivity," explains Mr Bill Reedy, a vice president of IBM's software business. "Our strong presence in enterprise computing led us to re-package our key services as modular software servers which can help companies move into the new environment, while keeping control of their legacy systems."

IBM now offers seven software servers in its range covering everything from its established CICS transaction processing software and DB2 database software to Lotus Notes and the Internet. At the same time, Microsoft has pushed into the server market with its Windows NT operating system.

"A server is a combination of hardware and software and users are looking for increased resilience and all of the things they were used to with the old mainframe computers," says Mr Peter Blackmore, vice president of Compaq's European systems business. "Servers have traditionally been based on the Unix operating system. But as Microsoft's Windows NT has moved into the commercial market, we are seeing a change. Our market analysis shows Windows NT has a compound annual growth rate of 120 per cent. Market acceptance is very high and the price/performance of NT is half that of Unix."

Compaq is taking a scatter gun approach to Internet server software. It packages up Microsoft's NT along with Novell's Web server and Netscape's Commerce server free of charge with its range of server computers.

"We think users need to make their own choices so they can fit in with their existing systems. Our job is to provide a resilient, open hardware platform," Mr Blackmore explains.

Microsoft also claims high performance for the Windows NT software – "although Unix is the traditional base for Internet servers, Windows NT is gaining ground, especially where users want to put a server on a local area network. Performance is a key strength of Windows NT and we are two and half times faster than any other server platform," claims Mr Jeremy Gittins, Internet product manager at Microsoft UK.

Access to the Web • By Paul Taylor

Battle of the browsers

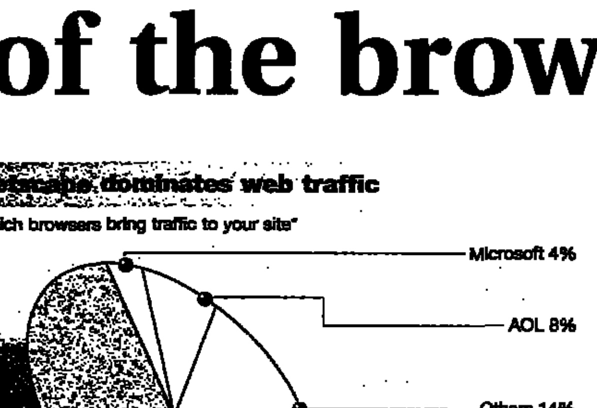
Although most attention is focused on the contest between Netscape and Microsoft, there are now more than 20 other browsers on the market

Perhaps more than any other piece of Internet software, the browser epitomises the strength of inter-networking and the World Wide Web – access to vast treasures of information using easy-to-use yet incredibly powerful software tools based on internationally recognised standards.

However, it is also in the market for browser software that one of the most bitter Internet software battles is being fought out between Netscape, the California start-up whose Navigator programme currently dominates the browser market with more than 38m users and around an 85 per cent market share, and Microsoft, which entered the browser market late, but which appears determined to establish its Internet Explorer browser as Navigator's main rival.

On the face of it, it is a true David and Goliath battle since Netscape had annual revenues of just $81m last year compared with Microsoft's $6bn.

Netscape dominates web traffic
Which browsers bring traffic to your site



Source: Forrester Research
*% of visitors accessing 50 sites

But Netscape, founded by James Clark and Marc Andreessen and floated on the Nasdaq last year when it was valued at $4bn, has some powerful allies, such as Oracle and Sun Microsystems, a large installed base and loyal following, particularly among corporates, which account for 70 per cent of its business.

Overall, browsers accounted for about 60 per cent of the estimated $127m in Internet software revenues last year and about a third of the projected $382m in revenues this year. But the battle between Netscape and Microsoft is about much more than just Internet software revenues. As commercial use of the Internet grows and intranets – internal networks based on Internet standards and software – are deployed throughout companies, browsers and browser technology are set to become a key element in corporate computing.

Already many features of the browser are being built into software operating systems and other applications programmes, helping to turn the browser metaphor into the next-generation graphical user interface. For example, last month Microsoft unveiled plans to combine its top-selling PC software products, such as Microsoft Office, with Internet technologies to enable businesses to build intranets as part of a strategy to stake claim to leadership in the emerging intranet software market.

Among the products previewed by Microsoft were new versions of its widely-used Windows PC operating systems, with built-in browser capabilities enabling users to search for information stored on their local computer, on an internal network or on the global Internet.

The company also demonstrated Windows NT Server, with built-in tools for authoring and network management, and a search server for document searching. It also showed Office 97, a new version of its best-selling desktop application suite, that includes technology for publishing and searching information in the form of Web pages.

Microsoft is "merging the best of the Internet and the best of the PC," said Mr Bill Gates, chairman. "Intranets will have an immediate and dramatic impact on businesses over the next few years," he predicted, by enabling office workers to find and share information more efficiently.

Microsoft, which already gives away Internet Explorer and its Web server software free, is expected to put increased competitive pressure on Netscape. In particular, analysts expect Netscape to be forced to reduce further the prices of its own server products, the company's primary source of profits. However, Netscape, which claims that 92 of the top 100 companies in the US already use its software, shows no signs of surrendering its lead in the browser market to Microsoft without a fight.

The company – whose latest Navigator version boasts a wide range of innovations including live audio and video and an integrated Internet telephone feature – has launched a pre-emptive strike against Microsoft by publishing its own intranet vision, via its Internet pages, describing the next-generation versions of its Navigator browser program and its Suite Spot software for the Web.

Netscape claims Microsoft's intranet technology forces users to adopt other Microsoft products, in particular its Windows operating system. Netscape's software, in contrast, works with Unix-based systems and Apple Computer's machines as well as with those running Microsoft Windows.

"We defined the intranet vision. Microsoft is trying to follow us down that path and put a proprietary tweak on it," said Mr Mike Homer, Netscape senior vice-president of marketing, last month.

For the moment, most independent analysts agree that Netscape's latest browser maintains its technological lead over the latest version of Microsoft's Internet Explorer, but, with new versions coming out every few months, the gap is closing.

Apart from Netscape and Microsoft, there are more than 20 other browsers on the market. In a recently published report, Forrester Research divided them into three categories based on technology and architecture:

□ **The laggards.** These browsers, argues Forrester, make using the Web painful because they do not support the latest version of 'Hypertext Mark Up Language,' (HTML).

□ **The pack.** This group includes 'credible browsers' such as GNN, Spry and Netcom's NetCruiser, but Forrester says they are "increasingly winded as they try to keep pace with Netscape".

□ **The leaders.** Netscape, says Forrester, qualifies for this category "because it is setting the Web software agenda." Microsoft is placed in this category even though its browser is technically a generation behind Netscape, because "it has a strategy for evolving Internet Explorer, and the financial and marketing clout to become a serious contender".

Most analysts believe, however, that the market is on the verge of a wave of consolidation driven in part, by the trend for the browser to become increasingly 'personalised' as users add bookmarks and other browser-specific data and programmes making it increasingly difficult to persuade seasoned users to switch browsers. This, it is argued, will drive the market towards Netscape and Microsoft – both of which have particular strengths and advantages – deter new start ups and cause other players to drop out.

Software applications: merchant servers • By Rod Newing

Electronic shopping on the Web

Home shopping is likely to be eclipsed by business-to-business electronic trading

As Web sites become interactive, the current business model – which requires visitors to switch off their modems and pick up the telephone to place an order – is about to disappear.

A new breed of Web software, called "merchant servers", is just around the corner which will allow visitors to place their orders and make payment securely whilst on the Web site.

Sitting between the user and the organisation's existing internal systems, these servers provide a range of services for electronic trading. They have the ability to display product details held in a separate database, to search for products, fill an electronic shopping basket with purchases, process orders, carry out user identification, apply for a credit account, check credit, process secure payments, capture visitor preferences, carry out customised micromarketing, offer coupons and discounts, handle sales taxes and provide reports.

Browsers can download an electronic shopping basket, which will then hold their credit card details and delivery address. It will enable credit card processing and secure payments and may be incorporated into a future operating systems. The servers have also been designed to support future electronic cash systems.

Microsoft's new Merchant Server was demonstrated to 50 retailers in Washington in February and incorporates features from their feedback.

Merchant Server currently only works with Microsoft's own Windows NT operating system and its browser, Internet Explorer. Only Explorer has the built-in security and encryption which electronic commerce requires, although it will soon follow in other browsers. Secure Electronic Trading ("SET") is the new publicly-available standard which allows merchant servers to verify the identity of legitimate buyers and reassure them of the legitimacy of sellers.

Payment

SET is designed to guarantee the provision of goods and services and subsequent payment. Visa and MasterCard have developed it together with Microsoft, GTE, IBM and Netscape. The specification should be available through *http:// www.visa.com* or *http:// www.mastercard.com*.

Visa is also developing NetBill, with Carnegie Mellon University, which will aggregate small transactions into larger sums which can be accounted for through credit card billing. Great Universal Stores (*http:// shoppersuniverse.com*) and Wallmart are *beta* testing Merchant Server at their respective electronic shopping malls.

When goods have been examined and selected, payment is by debit or credit card, using SET. Open Market Inc (*http:// www.openmarket.com*) has developed OM Transact, which is a top-end merchant server product aimed at very large retailers and Internet Service Providers (ISPs).

"They have the momentum and power to get commerce on to the Net," says Greg Pope, European general manager for Open Market. "Publishers are also important, because they have the content. And catalogue shopping companies are potential users."

IBM (*http://www.internet.ibm.com*) has recently announced Net.Commerce (*http://net.commerce.ibm.com*), which it has already used to sell tickets for the Olympic games at *http://sales.atlanta.olympic.org*.

L.L.Bean, the US catalogue retailer, will be the first commercial customer, with a service commencing in the third quarter of 1996. IBM is also offering to host on-line catalogues to allow organisations to trade electronically without incurring a high initial investment on the strength of unquantified benefits (*http:// www.ecs.hosting.ibm.com/ims / ims.html*).

New services

Lotus (*http://www.lotus.com*) is developing a new set of applications designed to introduce new core services to the Internet. The first of these 'e-applications' is Lotus Notes:Newsstand, which is used by information providers to publish material to subscribers. Additional applications are being developed for electronic data interchange, enhanced security, credit card processing, subscription management, customer service, and billing.

Netscape (*http://home.netscape.com*) has Merchant System for high-volume sites. It is used by WorldView Systems and Sabre for their travel service at *http://travelocity.com*. Andersen Consulting and EDS are implementation partners.

Netscape has just announced LivePayment, which extends Netscape's SuiteSpot Web servers with a set of templates which allow webmasters to build electronic commerce applications themselves.

Netscape has also set up Actra ('Active Transactions') Business Systems, jointly with GE Information Services, the world's leading provider of business-to-business electronic commerce. This move is aimed at bringing the considerable advantages of EDI to a wider business community using Internet technology.

Bob Lewis, IBM's European Marketspace manager has a very balanced view of electronic trading: "Any electronic mall service is limited by the slow speeds of home modems and by the limitations of graphics and images that the web server provides.

"Browsing for products is frustratingly slow, but you can shop *when* you want and move quickly between stores.

"Where the electronic mall will have added strength is in the new enhanced features, such as micro-marketing, personalised shopping and comparison shopping techniques."

Electronic shopping is going to be a valuable additional service on the Web, but it is possible that home shopping will be eclipsed by business-to-business electronic trading.

Businesses have faster links to the Web and bigger purchasing budgets than households. A recent survey of large companies by Barclays, the UK high street bank (*http:// www.barclays.co.uk/psmd/ business/purchaseonline*), found that nearly half of them want to use the Internet to order goods and services direct.

Shoppers' Universe already includes a small business-to-business section and General Electric have set up a significant trading opportunity between businesses at *http:// www.ge.com/tpn/*.

These new electronic trading systems will need to be aimed at other businesses – not homes – if the revenue-earning potential of the Web is to be maximised.

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FOREIGN EXCHANGE

Central banks steady the markets

During the uneasy quiet which now prevails the industry faces a period of restructuring. But, asks Philip Gawith, how long will the calm last?

Anyone inclined to the fashionable thesis that in an era of global capitalism, power is seeping inexorably from state to market need look no further than the foreign exchange markets for a convincing rebuttal.

Central banks and finance ministries have scored a convincing victory over their old foe, the currency trader, with exchange markets currently more benign than for many years.

The dollar has rallied strongly after its historic lows last year, the yen and the D-Mark have both weakened appreciably, providing much needed stimuli to their ailing economies, and the level of volatility in the main currencies is approaching record lows.

This period of stability is testimony to a greater sense of common purpose among G-7 partners, backed by real policy measures, than has existed for a long time. Last week Larry Summers, the deputy secretary of the US Treasury, told a New York audience: "The only path to enduring exchange market stability is through the pursuit of sound economic policies." The message from the markets is that the G-7 is on that path. However, it is a slightly uneasy calm that prevails. Historically, the longer that markets stay quiet, the fiercer the subsequent move. It is almost a year since central banks last intervened together to stabilise currency markets – a protracted peace by the standards of recent years.

Two questions in particular are occupying the market. The most important concerns the dollar – is the rally of the past year likely to be sustained? Does it represent a fundamental turn in the trend after more than 20 years of steady depreciation in the world's leading reserve and trading currency, or is it simply an upward blip within the ongoing downward trend? Much money will be made and lost getting the correct answer to that question.

The other fundamental question concerns the path to a single currency in Europe. Will traders still be trading D-Marks, francs, pesetas and liras in 1999, or will they all have been subsumed in the euro?

There is a tantalising absence of consensus on both of these questions. While the market remains broadly positive about the outlook for the dollar, there is still considerable scepticism about whether it can really have shaken off its bad old ways. As for Europe, nobody underestimates the collective political will, but the combination of a rigid timetable and a process driven relentlessly by politicians and bureaucrats against a backdrop of widespread popular scepticism, leaves an ugly bout of indigestion a distinct possibility.

From a purely selfish perspective, this is what many in the currency markets will be hoping for. For if there is one constituency in the world which does not enjoy the era of New Age economics, where all governments sing from the same hymn sheet of fiscal and monetary probity, it is foreign exchange traders.

The mood in the industry is subdued, with keen competition and calm markets proving an unpromising trading environment. Paul Chappell, head of foreign exchange at Bank of America in London, says: "1996 has been a very quiet year so it is very likely that people are going to be struggling to meet their budgets."

The conundrum the industry faces is, in the words of one manager: "Is it a drought, or do we live in a desert?" Will the industry return to the fat years of 1992/3, or must it learn to live with the current market environment?

Most dealing room managers are confident the music will start to play again – that the current policy consensus between leading industrial nations will unravel, prompting renewed exchange rate turbulence.

But even if they are right, it is unlikely to offer more than a temporary respite from the far-reaching challenges the industry is facing.

Optimists will report that they have been here before –

> Everybody is hoping for a return to the days when central banks threw money at the markets

back in 1991, a backdrop of quiet markets led many to question the future of the business, only for huge turbulence in the European exchange rate mechanism in 1992/93 to restore fortunes.

Only the most sanguine, however, believe this will do more than delay the inevitable. Market turnover may continue to grow – the most recent survey from the Bank for International Settlements suggests total daily turnover grew by 30 per cent from 1992 to reach about $1,200bn/day in 1995 – but fierce competition and the onward march of technology have put profits under pressure, especially in the main currencies where huge volumes are traded for little or no margin.

Guy Whittaker, head of global foreign exchange at Citibank, said recently that after 30 years of sustained growth in the industry, "we have perhaps reached a point where, because of a changing environment and new technology, the growth of capacity of the market has exceeded the growth in demand."

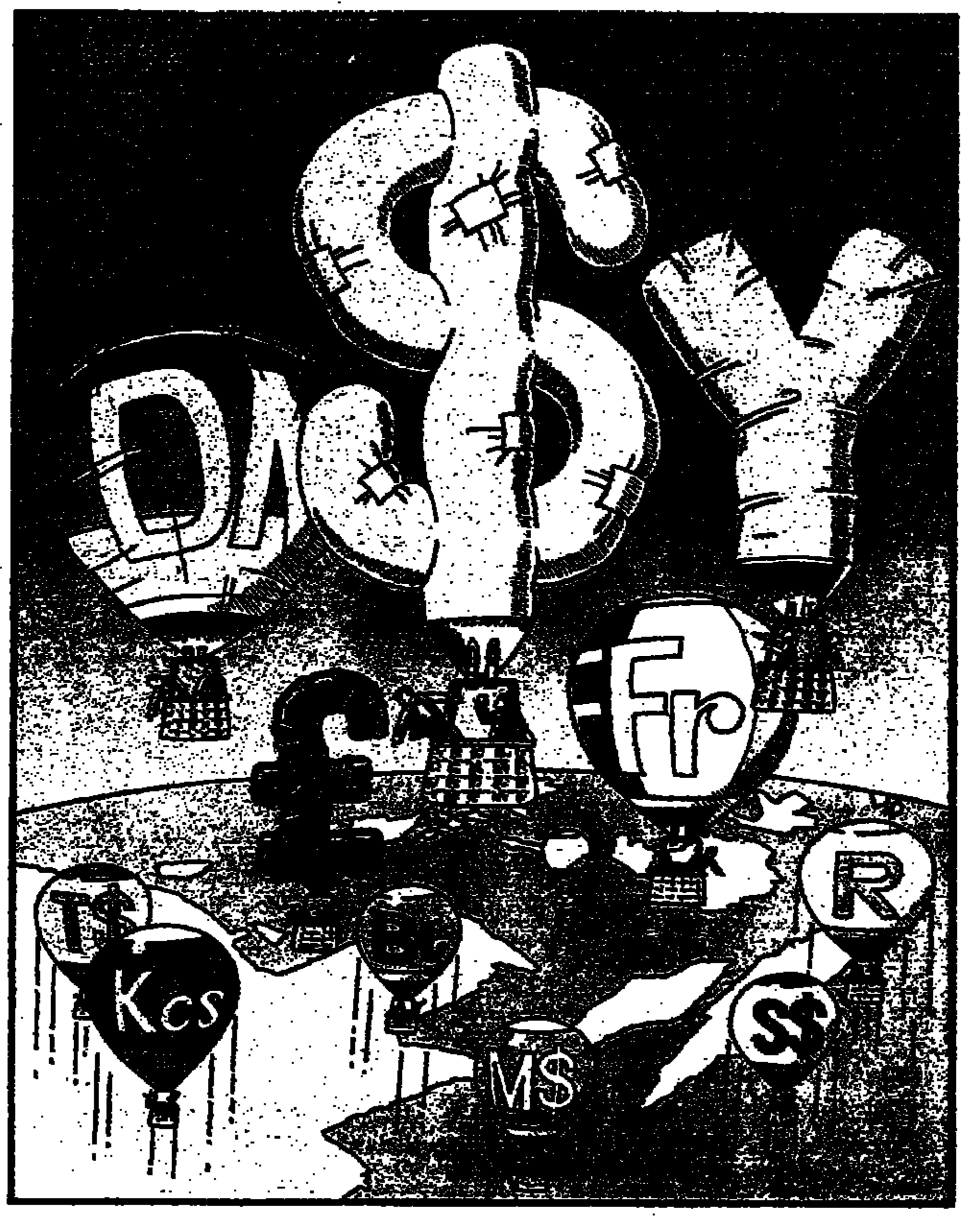
As with the rest of the banking industry, it is increasingly the case that machines can do some of the the work more cheaply and more efficiently than people. Partly, this involves labour intensive, back-office administrative work. But the front office is by no means immune. The powerful growth of electronic broking systems means that prices can, in many cases, be accessed from a machine. Reuters 2000-2 and EBS, the two electronic systems which allow trades to be done by matching buy and sell orders that have been put into the system, have carved out a large market share. This has come at the expense of both the voice-broking and the larger banks, who have lost much of the business they used to receive from smaller banks.

Klaus Said, head of foreign exchange at JP Morgan in New York, says: "I can very easily see where you have fewer traders and essentially no, or very little, interbank market making beyond gentlemen's agreements, with electronic broking used to get you out of your positions."

It is no wonder then that the spot trader, that most hoary of all market stereotypes, and bane of finance ministries over the years, appears an increasingly threatened species.

Privately, most managers of large dealing rooms agree that a significant shrink in the head count over the next few years – 30-40 per cent is not controversial – is inevitable.

Technology is not the only factor at work here. Consolidation and centralisation are two other important themes, both of which will cause job losses. The best example of consolidation is the merger of Chase and Chemical banks to form the new Chase, a potential contender for Citibank's status as the dominant foreign exchange bank, but also one now carrying on business with 20 per cent less staff. The merger of the Bank of Tokyo and Mitsubishi was also a significant one for the markets.



This sort of shrinkage has ramifications across the industry. There have already been significant job losses in the broking community, caused in part by the rapid growth of electronic broking, but also aggravated by the disappearance of important customers through merger.

Centralisation is also in vogue. Increasingly banks are closing many of their smaller trading rooms in minor centres, preferring to centralise their price-making capabilities in a few regional hubs, such as London, New York and Singapore. Local branches are then used as marketing outlets which only make prices in the domestic currency. From a global perspective, this process has involved big job losses, although this is not so evident in the large centres which, if anything, could be net beneficiaries.

Mr Whittaker cites the case of Citibank: eight years ago the bank had 39 spot dollar/D-Mark dealers trading in 17 independent centres just in Europe. "Today we do more business and serve more customers in dollar/D-Mark with only six dealers operating in two centres." Even if Citibank was decentralised to a fault, with different branches acting as competing fiefdoms, a similar story can be told at most other large banks.

In the meantime, banks have no choice but to play the hand they have been dealt. Jim O'Neill, chief currency economist at Goldman Sachs in New York, believes that it is "a period when the real franchise players with big client business are likely to stand out alone".

Certainly, there is more talk than ever about the customer. With technology having made the commodity end of the business increasingly unprofitable, there is a clear shift in focus from transactions to advice, with banks and brokers anxiously trying to move up the value-added chain to preserve their margins.

"Five years ago it was all about price. Now it's about relationships, idea generation and research," says Jeremy Hodges, head of foreign exchange sales at Bankers Trust in London. "The customers of today are far more sophisticated than they have ever been."

The future, then, is shaping up as one where fewer, more highly trained staff are employed, with far more effort, attention and resources devoted to customer service, and far less to purely transactional jobs where little value is added.

Customers, in turn, will be asked to pay for this service. At the moment, says Mr Said, "this market is dramatically slewed towards the client like no market I have ever seen".

But while the industry is having to face up to some difficult decisions, particularly on the cost side, there are also some bright spots. The most obvious is the growth in emerging markets currency trading. Margins are better, but risks are also higher, and there is no short cut to expertise in these markets.

There is no doubt, though, that these currencies will play an increasingly important role in the activities and profits of most dealing rooms.

Options are another growth area, particularly in the form of exotic options. While some banks and customers have burned their fingers, their superiority as hedging instruments seems likely to ensure that they will continue to grow, possibly cannibalising the spot market in the process.

While growth opportunities remain and have to be seized, the industry's current focus is more inward – on achieving a cost base that is sustainable through quiet markets, and improving returns on capital. Everybody, however, is hoping for a revenue surprise – a return to the good old days when central banks obligingly threw money at the markets.

History may record the present period as a one-off shift to lower price volatility, driven by greater policy convergence. That is the keen desire of politicians and central bankers. If not, the time may be approaching for the pendulum to swing back towards the market.

The impact of a strong currency

■ **Japan:** by William Dawkins

Yen's rise prompts exodus

Japanese manufacturers are shifting production to cheaper locations offshore

Toyota, Japan's largest car producer, will in two years' time start making engines in China, its first significant foothold in this potentially enormous market.

Hardly a week goes by in Tokyo without a top manufacturing company announcing a project in Asia, whether it be a tentative first step into the wilds of China or a semiconductor plant in an advanced, newly-industrialised economy such as Singapore.

What has changed in the motives of Toyota and others for their expansion overseas? Until recently, the main driving force was the strength of the yen. But deeper factors are also at work. Japan, once supreme in mass production, is being overtaken by its more recently industrialised neighbours. It now faces the challenge of how to find new high-technology sectors in which to compete, at present the top priority for its industrial policy planners at the ministry of international trade and industry.

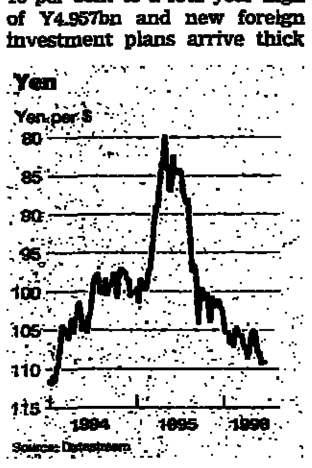
> The yen has risen by 83 per cent against the dollar since 1985

The climb of the yen alone has been a powerful stimulus for change. Since the end of 1985, the currency's value against the dollar has risen by 83 per cent to around Y109, touching a hair-raising record of Y79.75 in April last year.

Manufacturers have responded correspondingly fast in shifting new production to cheaper locations offshore, though they have been slower in shedding redundant capacity at home, a legacy of the largest companies' continued promise to provide lifetime employment.

Over the past near-decade, the share of Japanese companies' production offshore has risen from 3 per cent to 7.9 per cent at the latest Miti count at the end of 1994. Since then, the signs are that growth in the share of foreign output has accelerated. The total could reach 20 per cent in the next three to four years – about the same as in the US now – according to the Japan External Trade Organisation. Already, Japanese manufacturers produce more abroad than they export.

The exodus, it appears, has picked up a momentum too strong to be checked by the decline and stabilisation of the exchange rate since the middle of last year. In the 12 months to March 1996, Japanese foreign direct investment rose by 16 per cent to a four-year high of Y4.957bn and new foreign investment plans arrive thick and fast.



Japan's first wave of foreign investment in the early 1980s was primarily to supply its main existing overseas markets – the US and Europe – and Japan more cheaply. But over the past decade, the focus has switched towards faster growing and more profitable markets in Asia. Overall, foreign direct investment in North America declined from just over half of the total when Japan's FDI peaked in 1989, to 45 per cent last year, while the share of investment in Asia doubled to 24 per cent over the same period, according to the finance ministry.

As the focus of new production has switched to Asia, so the new arrivals have started to put down local roots more deeply than before. They have invested more in servicing local markets, and moved some research and development and even management functions out of Japan.

Japanese companies' local units reinvested 60 per cent of their local profits on increasing capacity for local markets, rather than exporting, twice as much as five years ago, according to Jetro's 1996 white paper. More companies are setting up local headquarters with decision-making responsibility, it remarks.

Meanwhile, Japanese companies' domestic spending on research and development started to decline three years ago for the first time since the war, since when foreign offshoots' R&D has correspondingly risen, according to a recent Miti survey.

It all points to a decisive move away from the centralised, domestically oriented tradition of Japan's top companies. That suggests that the shift of capacity offshore should, as Jetro believes, continue to rise to the levels achieved by other mature economies.

Managing exchange rate fluctuations

■ **Fund manager case study:** Guinness Flight • By Philip Coggan

Teamwork plays prime part

John Stopford's team looks after around $1.3bn of assets with a currency overlay

Fund managers are becoming increasingly aware that they need to take a view on currency movements, as well as on the prospects for bonds and equities.

John Stopford, a portfolio manager at UK fund management group Guinness Flight, is one of a team which looks after the currency exposure of the group, plus a range of onshore and offshore currency and bond funds for retail and institutional investors. The team looks after around $1.3bn of assets with a currency overlay.

"We have been managing currencies as a separate asset class from bonds and equities since as far back as 1980," he says. "That means putting a currency overlay on all our bond and equity funds. What is good for bonds and equities isn't necessarily good for currencies. So just because we are invested in US treasuries doesn't mean we are in dollars to the same extent."

Frequently in recent years, currencies have been moving in the opposite direction from the underlying asset class. "Over the past year, the optimal strategy has been to be long the Nikkei 225 and short the yen", Mr Stopford says.

The decisions on currency strategy are taken by the entire team. "For us to have a reasonable amount of success we feel it's important to generate ideas internally," says Mr Stopford.

The team has a disciplined process of quarterly, monthly and weekly meetings, during which it looks at what Mr Stopford calls "compelling forces – those key factors which we think drive exchange rates over the medium and long term." Each month the factors are "scored" by the team to help members reach a view on currency prospects.

"In the very long term, currencies move to offset changes in competitiveness," he says. "Relative prices are important, and while purchasing power parity doesn't hold true all the time, it does have an influence." The team also considers other long-term factors such as if a country runs a consistent current account deficit.

But, Mr Stopford says that "in the short term, currencies can deviate quite a lot from their long-term path." The Guinness Flight team accordingly looks at factors which affect short-term capital flows such as "short-term interest rates, real bond yields, direct investment flows, whether the trade position is worsening or improving, and whether central banks are intervening".

Chart patterns, or technical analysis, can also play a role in determining the team's short-term view, as can non-economic factors such as politics. All in all, the scoring process means that, according to Mr Stopford, "we might be wrong about individual factors but on balance, hopefully, the totals are pointing in the right direction".

John Stopford: It is important to generate ideas internally

The process also limits the tendency for the managers to become involved in ceaseless dealing activity. "We are strategic investors rather than traders and we add value by taking a long-term view; we can't out-trade the market," says Mr Stopford.

Once the team has decided on its view, the appropriate funds will move in the same direction (and at the same time). "Our dealing will be done using one of a number of City financial institutions. For credit reasons, we spread the risk pretty carefully, and we look at pricing and quality of research."

At the start of the year, he says, the currency decisions were relatively easy. Japan and Germany had easy money policies, the Japanese current account was deteriorating, and the respective authorities were talking down their exchange rates. "That made it smart to be long dollars and short yen," says Mr Stopford.

The decisions are harder now. "The US dollar no longer looks that cheap and the DM and yen no longer look that expensive. "The Italian lira and Swedish krona have moved from being undervalued. We remain long of the dollar but we have reduced our positions gradually. We have also reduced positions in peripheral currencies."

■ **Germany:** by Andrew Fisher

D-Mark dip suits exporters

The stagnating economy now looks like moving back hesitantly to a growth path

Germany's exporters are breathing more easily this year. Already under pressure from high domestic labour costs and taxes, they bore an extra burden in 1995 as the D-Mark soared against the dollar and several European currencies. But now the trend has been reversed and the German currency is back to its levels at the beginning of last year.

> The D-Mark is back to its levels at the beginning of last year

This is positive news for a stagnating economy which looks like moving hesitantly back to a growth path. With private consumption and industrial investments lacking any real impetus, exports are the economy's main support.

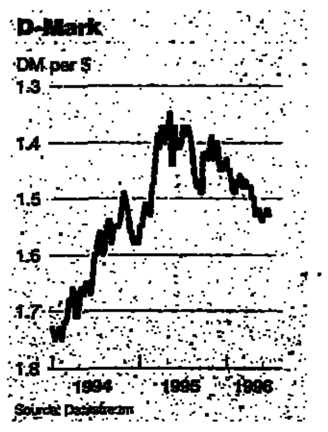
Encouragingly, the Bundesbank said in its June monthly report that exports had stabilised at the high level of the second half of 1995. The correction of the D-Mark's overvaluation of last year had brightened the export outlook and also improved companies' profitability.

From a low of DM1.3450 in April 1995, the dollar has climbed above DM1.53, with economists expecting it to strengthen to perhaps DM1.60. At the peak of the D-Mark's rise last year, it had risen by 6 per cent against the currencies of the 18 most important industrialised countries.

The D-Mark's revaluation last year reached 14 per cent against the dollar, 20 per cent against the lira and 10 per cent against sterling. It was less extreme against the peseta and the Portuguese escudo.

"It has taken 14 months to level the unjustified appreciation of the D-Mark in the first quarter of 1995," Bank Julius Baer said in its latest economic summary. However, the changed currency trend also meant economic growth in Germany's neighbours would weaken once the impact of their depreciations had worn off. Thus they were likely to cut interest rates to choke off further rises in their currencies.

The combination of high costs, currency uncertainties and a desire to gain access to new markets has led to a rapid increase in German companies' investment abroad. Last year, the total nearly doubled to around DM50bn, while foreign investment in Germany was only DM13bn.



Several big transactions in the insurance, pharmaceuticals and banking sectors pushed up German investment abroad, the bulk of which went to the European Union and the US.

But German companies are also investing more in south-east Asia and eastern Europe. Increasingly, the Bundesbank noted, exporters are incorporating cheaper foreign components into their export products.

Thus higher exports do not fully benefit the German economy. Also, foreign order figures could be exaggerated through inclusion of contracts that companies pass on to lower-cost foreign subsidiaries.

So while the D-Mark's strength may have abated, exporters are still striving to cut costs and offset the impacts of currency shifts. Moreover, the currency could come under further revaluation pressure if markets thought a postponement of European monetary union – aimed at stabilising economic and currency conditions – was likely.

The Bundesbank, however, will be anxious to ensure that the D-Mark does not enter Emu at too high a level, locking the country in from the start at uncompetitive levels.

■ **International company case study:** Marzotto • By Andrew Hill

Currency exposure controlled

Just over two-thirds of the company's L2,400bn turnover consists of sales outside Italy

Pietro Marzotto is looking forward to the arrival of a single European currency, if only because it could save him a little of the time he has to spend every Tuesday discussing exchange rates with the financial managers of Marzotto, the quoted Italian clothing and textiles group of which he is chairman.

Just over two-thirds of Marzotto's annual turnover of L2,400bn is represented by sales outside Italy. The group also has production based in Germany (it controls Hugo Boss, the German menswear group), France, the Czech Republic and Tunisia.

While the lira was in the European exchange rate mechanism, control of movements against other European currencies was relatively simple. But the precipitate departure of the Italian currency in September 1992 ushered in a new period of exchange rate volatility, exacerbated by domestic political uncertainty.

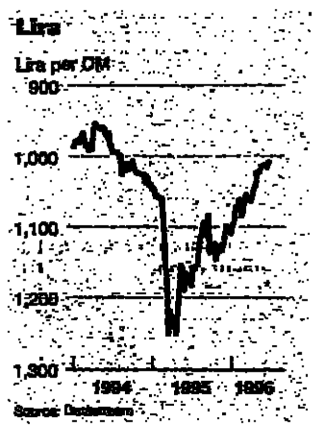
Marzotto's 1995 report and accounts underline the problem. Last year, the average exchange rate against the D-Mark – the most important currency for Marzotto – was L1,130.88.

That compares with L996.52 in 1994 and L1,071.6 in the first quarter of this year. Now analysts talk about the lira re-entering the ERM at a central rate of some L1,000.

Under the circumstances, Pietro Marzotto is understandably cautious about forecasting a consolidated result in lira. In his message to shareholders he directs attention to the more stable Ecu-denominated profit and loss account.

End-year translation effects are only part of the problem facing Marzotto, however. The 1992 devaluation was widely interpreted as a boon for Italian exporters. But whereas small Italian companies were able to take advantage of the weak lira with single order raids on the export market, Marzotto could not afford to be held hostage by a volatile currency. In 1993, prompted by the lira's exit from the ERM, the company introduced a new system of hedging and control over exchange rates.

Mr Marzotto is proud of the new system, and reluctant to reveal it in detail, but the central instrument for controlling currency exposure is a weekly report, analysed by the chairman and his top executives. In the report, the company assesses its commitments in foreign currencies – credits and firm orders, less balance-sheet debt, plus the forecasts for future orders and expenses. It then borrows in local currency, or occasionally uses foreign exchange swaps, to cover part of the risk. The level of coverage is cyclical, as the business is in part based on the presentation of each season's fashion collections. "Gradually, as forecasts become more certain, we increase the coverage," says Mr Marzotto.



The report also allows the group's executives to examine what would happen if all Marzotto's foreign currency debts, orders and commitments were realised, thus giving a weekly snapshot of the group's exposure to currencies. Foreign subsidiaries, including Hugo Boss, now use a similar system.

The system has allowed a clearer picture of underlying trading at Marzotto to emerge from the currency turbulence. In fact, in the past three years weak demand in core markets has had a greater impact on Marzotto's results than exchange rate movements. Marzotto's 1995 report explains that the lira's weakness last year "did not, in fact, benefit the operating margins and the total profitability in that ... higher costs were incurred for goods and services and negative exchange differences on the settlement of financing in foreign currency" aimed at reducing exchange rate fluctuation.

Now the lira is strengthening. Marzotto also faces a squeeze on its export margins, with long-term clients reluctant to pay higher prices. No amount of sophisticated currency hedging, it seems, can help soften the tough commercial reality of working in world markets.

■ **Europe:** by Lionel Barber

Traders are warming to Emu

The financial markets have sensed the political will behind monetary union

Something strange happened in the foreign exchange markets this spring: Traders, long sceptical about economic and monetary union, turned into near-believers.

The shift in sentiment created a measure of stability in the exchange rate mechanism and a narrowing of long-term bond yields between Germany and potential Emu participants, notably France. All this occurred despite a slowdown in the European economy, persistent high unemployment, and the surprise news that Germany's budget deficit for 1995 exceeded the Maastricht treaty target of 3 per cent of GDP. What is going on?

The first explanation is that the financial markets have finally sensed the formidable political will behind the Emu project. This is true of Chancellor Helmut Kohl who sees monetary union as the cornerstone of a more politically integrated Europe; and it is even truer of elite political opinion in France.

The turning point came last November when President Chirac abandoned equivocation and sanctioned a severe squeeze on public spending. Prime Minister Alain Juppé initially mishandled the package of spending cuts which stirred up violent street protests; but by the New Year, calm returned and the bulk of the cuts, including reforms in social security, remain intact. Now Germany has embarked belatedly on a similar austerity drive with proposed cuts of DM50bn at federal and state level.

The second explanation is that markets have woken up to the fact that the technical obstacles to Emu, though daunting, are manageable. The European Commission and the European Monetary Institute are confident that all work will be wrapped up by the end of the year. This includes German-led proposals for a stability pact to enforce budgetary discipline among Emu participants, and the politically contentious relationship between those willing and able to join Emu and those unable or unwilling – the so-called "ins" and "outs".

Last April, at a meeting in Verona, Italy, EU finance ministers agreed in principle on the creation of a new model ERM which would preserve the current 15 per cent fluctuation bands for currencies with the euro replacing the D-Mark as anchor currency. The future European Central Bank would offer limited intervention to support currencies in difficulty, but the onus would be on member states to put their own house in order. More important, the ECB would have the power to propose a currency realignment, remedying one of the defects in the present system where countries can delay adjustment for political reasons.

Finally, the markets have grasped that Emu will ultimately be a political decision, to be taken by EU heads of government in the spring of 1998 (under the British presidency). This should allow a measure of flexibility in the interpretation of the Maastricht criteria, particularly on the ratio of government debt to GDP which is supposed to be 60 per cent or approaching the target at a satisfactory rate. Last month, EU finance ministers decreed that both Denmark and Ireland met the Maastricht targets because their debt ratio was declining at an appropriate pace, despite German protests.

None of this suggests that Emu is guaranteed to go ahead on January 1, 1999. The biggest uncertainty is the performance of the European economy. Only three countries, Denmark, Ireland, and Luxembourg, meet the Maastricht criteria. Without a return to growth, France and Germany will struggle to get near the budget deficit target of 3 per cent.

■ **Risk management:** by Philip Gawith

Debate rages on derivatives

Customers are now seeking to hedge their risks rather than improve returns

You will not travel far in the foreign exchange business without tripping over the phrase "risk management". As markets mature and margins disappear from the business of spot foreign exchange, banks are seeking increasingly to find a new role for themselves under the guise of offering a risk management service.

On the face of it, this is no more than an appeal to common sense. But the devil, as ever, is in the details. Derivatives are key risk management tools, but in the wrong hands they can aggravate rather than reduce risks and the industry remains saddled with the legacy of many large losses which, rightly or wrongly, are attributed to the use of derivatives.

A debate continues to rage about their usefulness and the temperature rose recently with the appearance of a provocative article "Why derivatives don't reduce FX risk" in the McKinsey Quarterly. Authors Tom Copeland and Yash Joshi wrote: "The sad truth about foreign exchange risk management programmes is that most would not pass the doctor's basic test: First, do no harm... it is clear that many programmes destroy value instead of protecting it."

They continue: "Of all the variables that influence a firm's financial performance, FX is but a minor contributor to total risk, except in the event of catastrophic currency failures..." And even if the FX risk was a serious one, a study the authors performed of 200 large companies suggested hedging may not be much help in addressing the problem. They found that in only 20 cases would income volatility be reduced by more than 10 per cent.

This is not a very helpful message for those manning the options desks of large banks which market these instruments as useful hedging tools. Unsurprisingly, the McKinsey analysis is vigorously contested. Zar Amrolia, global head of FX options marketing at Deutsche Morgan Grenfell, says the critique is misconceived because it tries to look at risk in isolation without considering returns.

He argues that a successful hedging programme can increase the value of a company by "adding to the growth in cash flows and reducing the cost of funding".

He also contests the assertion that FX risk is not worth hedging, citing the 1994 case where Matsushita lost $1.7bn in translation exposure due to currency fluctuations when it sold MCA.

Figures in the book Managing Foreign Exchange Risk by David DeRosa also show that during the 1986-95 period, hedged returns on global equity and bond indices were roughly double or half of those of corresponding unhedged returns, depending on which side of the currency the investor was.

Mr DeRosa believes that the onward march of derivatives is ineluctable, with the bad experiences largely behind it. "Interest is so great that it is only a matter of time before the market learns how to use these products. I see this tremendous effort in the way of education and new systems for risk monitoring. This paves the way for increased use of derivatives."

There is also evidence that the knowledge gap between dealers and users has closed to the point where there is greater mutuality of purpose than sometimes existed in the past.

Les Halpin, managing director at Record Treasury, a currency risk management group, says customers are favouring simpler products that are easier to understand.

"We are being asked more to look at strategies which reduce risk. In the past people asked: how can we add to return, but the only way you can add to return is by adding to risk," says Mr Halpin.

The focus, therefore has shifted to protecting the downside rather than trying to improve the upside.

It is not clear, however, that banks are looking at the subject in entirely the same way. As the options business has matured, traders have resorted increasingly to using exotic options, rather than vanilla options.

The most common type of exotic option, the fastest growing part of the business, are those with a binary, or fixed pay-out, structure. These are essentially bets – either they are right or wrong, at very price specific points. A regular currency option, by contrast, has a much more incremental effect, with the pay-out based on the degree to which the option is in or out of the money.

For all the appeal, exotics are a complicated area, and some banks have paid heavily for their inability to develop suitable modelling systems to value these options.

One US-based trader comments: "Someone new falls on their sword every day. There is a lot of blood out there." Clearly it is not only customers who are at risk from dabbling in areas they do not understand.

■ **Netting:** by George Graham

Herstatt lessons learned

Banks have taken a number of steps to reduce payment risks in the foreign exchange market

When Bankhaus Herstatt, a small Cologne bank, collapsed in 1974, it cost its foreign exchange trading partners more than $620m in uncompleted deals and created a whole new category of risk for central bankers to worry about.

Two decades later, what has become known as Herstatt risk appears at last to be on the verge of being dealt with, or at least sharply reduced.

Banks have taken a number of initiatives aimed at reducing payment risk in the foreign exchange market, either through netting agreements, which allow banks to offset the amounts they owe each other, or through some form of centralised clearing house.

Bilateral netting services are operated by a number of groups such as FXNET, a partnership of 12 leading banks, Swift, the global payment message network, and Valunet, run by the International Clearing House.

These systems allow any two banks to offset the gross sums they owe each other, and settle up only the net difference.

Many banks still do not use these services, however, and many that do still use only "close-out netting", which is only triggered by some defined event such as the appointment of a liquidator. Routinely, they still tend to pay each other in gross.

Since last August, the concept of netting has extended on to a multilateral basis with the creation of the Exchange Clearing House, or Echo. Participants make payments not to each other but to the clearing house, significantly reducing the number of payments they have to make and thus, it is hoped, their exposure.

A competitor called Multinet, sponsored by a number of US and Canadian banks, is still awaiting regulatory approval.

But the initiative which has excited most interest is the work of 17 of the world's largest foreign exchange banks, which have oddly dubbed themselves the Group of 20, on the establishment of a global clearing house bank providing an instantaneous foreign exchange settlement system linked to national payment systems such as the UK's Chaps or the US's Fedwire.

If the G-20 project comes to fruition, it would virtually eliminate a whole tranche of risk from the world financial system.

Because payment for both sides of a foreign exchange deal would be made simultaneously, banks would no longer be left in the position, as they were by Herstatt, of having paid up their side of the bargain but not having received anything in return.

From the central banks' point of view, it is not a moment too soon for the commercial banks to be addressing the issue of payment risk.

Twenty-two years have passed without another shock to the foreign exchange markets on the scale of Herstatt, and some commercial banks have grown unwilling to invest serious money in addressing a risk which appears remote.

To the central banks, the risks appear anything but remote. They have been constantly reminded by such crises as the failure in 1990 of Drexel Burnham Lambert, the US investment bank, and the Bank of Credit and Commerce International (BCCI) in 1991, or the attempted coup d'etat in Moscow in 1991.

Last year, the collapse of Baring Brothers, the UK bank, threatened to block the settlement of Ecu50bn (£39bn) of payments, even though Barings itself was involved in less than 1 per cent of them.

The problem is that while the risk of another Herstatt is small, the sums traded in the foreign exchange markets are now so large that even that tiny risk is unacceptable.

"The risk is not zero. It may be point zero, zero, zero, but there is a significant digit," said John Reed, chairman of Citibank, one of the world's largest foreign exchange dealers.

What remains to be settled is which of the various initiatives will win the day. Some banks argue that netting and real-time settlement systems such as the G-20 project are complementary, but the reality has been that a number of potential participants have held back from the multilateral netting schemes while they see if the G-20 can get off the ground.

"At the end of the day, it will be the G-20, because that is where all the big boys are," said one London foreign exchange chief.

Some of the netting houses would disagree, but the G-20 is steaming ahead. Some legal issues remain to be ironed out, but participants in the project believe it could be up and running inside two years.

Central bankers around the world will sleep easier if it is.

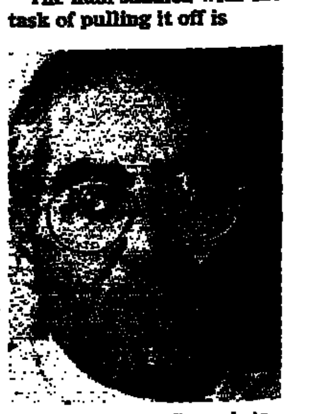
PROFILE Donald Layton

Man in hot seat at Chase

In terms of the architecture of the industry, there has been nothing over the past year to match the merger of Chase and Chemical, two of the largest foreign exchange banks whose combined capacity clearly gives them some claim to top dog status in the industry.

It is a claim which Citibank, long time market leader, would fiercely dispute, and it is an ambition which Chase itself eschews, but there is no argument about the potential. The key issue is whether the whole can be made more than the sum of the parts.

The man saddled with the task of pulling it off is



Donald Layton: challenge is to build the business

Donald Layton, vice-chairman in charge of global markets at the new Chase, the name of the merged bank. He is confident: "There is no reason why you can't put them together and get better than the parts added up. We did this once before with Chemical and Manufacturers Hanover. I don't think it is going to be that hard. It is the same business on both sides."

From a forex perspective, the merger made sense in that there was perhaps not more than a 50 per cent overlap in their businesses. Chemical's business was dominated by market-making, with financial institutions, investment funds and "corporates who acted like professionals" as its main customers. Chase, by contrast, had a much stronger sales emphasis, was more oriented towards corporate customers, and had a greater emphasis on "value-added" rather than vanilla solutions.

Given this balance between the two component parts of the new bank, and the clear shift in the business away from market-making towards customer business, it is slightly ironic that Chemical has gained the upper hand, causing many senior staff from the old Chase to leave. "The wrong bank won," is the judgment of one competitor. Mr Layton will be anxious to prove him wrong.

He is confident that the bank will not lose clients as a result of staff who have left. "Relationships are institutionalised as well as personalised. It is not just a question of the guy on the desk."

The merger is a two-stage business: the first part, actually putting the two organisations together, has been in effect since April 8, when Chase began presenting a single face to the market.

"While the physical and technological sides of the merger have been achieved, the psychological aspect will obviously take longer," says Mr Layton.

The second step of the process involves getting the cost savings out of the merger, the aim being to keep "virtually 100 per cent" of the revenues at the same time. The effect of the merger has been to cut both costs and staffing by about 20 per cent, but revenues are more difficult to judge because they depend on market conditions. Mr Layton believes, though, that they are easily being maintained.

Now the challenge is to build the business – in particular, to combine Chemical's market-making ability with local branch network and global reach of Chase; to take less mature currencies – Mr Layton cites the Greek drachma as an example – on to the world stage.

"Cross-over trades" is what the bank needs to achieve success – the merged bank has more products and customers than either of its constituents. The two must be brought together.

Mr Layton believes Chase should be able to grow, by taking market share, and through more successful proprietary trading.

He also thinks Chase should have a larger share of the client market. "We do not have our natural market share for the bank we have become."

Remedying this will involve doing a better job of pursuing corporate business, but the stress will be on the institutional side, with rising global investment flows the main stimulus to market growth.

Philip Gawith

4 FOREIGN EXCHANGE

■ **US dollar:** by Philip Gawith

Dollar does an about turn

The biggest question facing the markets is whether the currency's rally will prove enduring

If a week is a long time in politics, then a year is an aeon on the foreign exchange markets. A little over 12 months ago, the dollar had sunk to historic lows against the D-Mark and the yen, prompting concerned discussion about its future as the world's main reserve currency.

A year later, that concern seems somewhat overblown. The dollar has rallied by about 27 per cent and 12 per cent respectively from its lows against the yen and the D-Mark to reach its current levels around Y109 and DM1.53.

Its status as the dominant trading currency is unimpaired – official figures show it figures on one side of 83 per cent of spot foreign exchange transactions – and its pre-eminence as the leading reserve currency is not threatened.

Now the biggest question facing the markets is whether the dollar's rally will prove enduring. The fundamentals appear favourable, but the sluggish rally, especially against the D-Mark, has led some to wonder whether it has the momentum to keep going.

What, however, caused it to turn in the first place? Stripped to basics, there were three main elements: improved international economic co-operation: the relaxation of monetary policy in Germany and Japan; and the improved performance of the US economy, coupled with a more credible policy backdrop including towards the dollar.

The issue was also redefined. It became increasingly clear that the focus of the problem lay more in the overvalued currencies and stagnant economies of Japan and Germany than in the weak dollar.

In the US, there were two crucial developments. The first was the emergence of a bipartisan consensus behind the desirability of a balanced budget. This helped convince markets that the US was serious about putting its economic house in order.

The second was the appointment of Robert Rubin as US treasury secretary. As the former senior partner of Goldman Sachs, the prestige Wall Street investment bank, he started with the advantage of having the market's respect and his subsequent performance added considerably to the credibility of the Administration's economic pronouncements. Helped by the US's good economic performance, especially compared with Germany and Japan, he was able to achieve the considerable feat of overturning traders' deep-seated scepticism about the dollar.

An important element in achieving this was a series of successful bouts of central bank intervention between April and August 1995 to support the dollar. These were instrumental. in shifting market sentiment in favour of a stronger dollar, just as earlier failed bouts of support had convinced markets that the dollar had to go lower.

Mr Rubin, however, did not work his magic alone. The perilous state of the Japanese banking system convinced Japanese authorities that fiscal and monetary stimuli were necessary to haul the economy out of a deflationary spiral. On the monetary side, this required a weaker currency and lower interest rates.

Germany also shifted tack - the Bundesbank stopped making snide coments about US economic policy, continued to loosen monetary policy through the exchange rate and interest rates, and started calling for a stronger dollar.

As with Japan, this change can be traced to underlying weakness in the domestic economy. In Germany's case, the need to boost economic growth through keeping exports competitive was given added urgency by the imperative of meeting the convergence criteria of the Maastricht treaty.

The dollar's turn, therefore, was in part a function of economics – Japan and Germany needing weaker currencies, and the US economy clearly outperforming. But policy also played a role – the fact that the largest three economies were all believed to want a stronger dollar gave traders and investors confidence to buy dollars again.

What of the future? A forecast, published by Consensus Economics, shows the market believes the dollar will be trading at DM1.539 and Y106.2 in a year's time, barely changed from current levels, although some influential forecasters are predicting levels of Y116-20 and DM1.60/70 before then.

As ever there are risks: renewed turbulence in the ERM, causing a flight to the D-Mark, or an economic upset in one of the three main economies, would probably suffice.

But even if most of the dollar's rally is behind it, especially against the yen, it is still easier to see it rising, rather than retreating.

■ **Exotic currencies:** by Philip Gawith

Funny money comes of age

Demand for obscure currencies is growing as investment in developing countries rises

When Derek Saville started to develop Standard Chartered's emerging market currency business back in the early 1980s, it was known as the "funny money" desk.

Today it would be more appropriate to talk of big money. With mature currencies less volatile than in the past, banks are looking for new opportunities in foreign exchange. And rising trade and investment flows to developing countries have boosted demand for previously obscure currencies.

"Over the next few years 50 per cent of all the growth is going to take place in these markets," says Mr Saville, head of treasury global products at Standard Chartered in London.

Asia and Latin America have long been the emerging markets most active for currency trading, but there has been increased activity in east European currencies such as the Polish zloty and the Czech koruna, as well as the South African rand.

In terms of volume, trade in these exotic currencies remains small – figures are notoriously vague, but global daily turnover could well be below 5 per cent of that in the mature currencies. It is the trend, however, that is important.

Banks confirm that there is rising customer demand to trade these currencies and the signs are there for all to see – the increasing number of banks hustling for a piece of the business, the burgeoning volume of research produced, and the hot labour market for emerging markets talent.

Although exotics may still be on the margin, they are moving increasingly to the centre. There are days now when a currency such as the rand or Mexican peso can dominate dealing room activity, sometimes to the point that the explanation for movements in the "majors" can be traced back to developments in one of the exotics.

These currencies are also performing well when measured by the key benchmark of profits. Although volumes may be low, these are often handsomely compensated for by generous margins.

Steve Jennions, emerging markets stategist at Banque Indosuez in London, says: "If you are the only bank that can provide a currency payment into Algeria, your reward is obviously going to be quite substantial."

While Citibank, with branches in 97 countries, is to some extent in a category of its own in foreign exchange, it will still come as news to many to learn that roughly half of its foreign exchange profits are now earned in emerging markets – approximately double the level five years ago.

At Standard Chartered, more than half of the foreign exchange profits in the London dealing room come from emerging markets.

Guy Whittaker, head of global foreign exchange at Citibank, says that in the 1992-95 period, the balance between old and new markets "shifted quite significantly" with a commensurate shift in resource allocation for the bank, both in regional centres and local currencies.

As in all markets, there is a trade-off to be had between liquidity and margins. While banks enjoy the fat margins associated with illiquidity, they also hanker after the comfort of knowing that they can sell when they need to. Mr Jennions says: "We need more banks in on a fully-fledged basis to provide liquidity to the market as opposed to just their clients."

Whether the business will be as fizzy as some optimists expect is a moot point. Mr Andy Siciliano, head of foreign exchange and interest rates at SBC Warburg, comments: "Emerging markets will be good, but nowhere near everybody's expectations. More revenue will come, but it is not going to be an easy stream."

The 20 per cent fall in the South African rand earlier this year, after a long period of stability, was simply the most recent example that some of these markets remain volatile.

Whether new entrants have the stomach or the nous for the long haul also remains to be seen. Mr Saville is sceptical about their "pain barriers". "They may have deep pockets, but once they realise the risks, the problems ..." The issue goes further: "The culture is not there yet. It is very important for the culture among the whole bank to be there."

For now, distinct differences remain between exotic and mature currencies. Aside from factors such as liquidity and margins, exotics tend still to be influenced by domestic political and economic events, while mature currencies respond more to shifts in monetary policy in the main economies, not simply their own. There is also less speculation, often because it is prohibited.

Mr Saville's advice is simple: "Try and get as close to the central banks and policy-makers as you can, and listen very carefully to the advice you are given, because they mean what they say. They don't deal in soundbytes."

■ **Currency strategists:** by Graham Bowley

Crystal balls are often wrong

Clear thinking, acute writing and strong conclusions are qualities valued by investment managers

With big salaries, fast cars and, for those at the top of the profession, a guru-like status whose scribblings attract fame across the City of London, Wall Street and beyond, the star of the foreign exchange strategist has risen far in recent years.

But strategists are far from infallible. Indeed, most are often wrong, especially on the most heavily traded currencies which are the ones that matter most.

"We have never met anybody who has consistently predicted the major trends in currencies," says Tony Baverstock, treasurer at Clerical Medical, the life assurance group.

Investment managers, whose desks daily groan under the weight, of the industry's outpourings, may therefore ask why they should take note?

The answer is that their work is valued not for the accuracy of their forecasts but for the wide variety of ideas they are able to generate and which investors can use as a sounding board for their own policies.

"We do find them useful just because they are looking at things from a greater research base. We can't replicate that research base," says Tim Swadling, portfolio manager of currencies and international fixed income at AMP Asset Management.

Paul Abberley, head of fixed income at Lombard Odier Investment Management Services, says: "The key thing we want to know is what is driving currencies at any one time. There are things which we can do ourselves – for example forecast – but large houses can see the current flows which we cannot."

Banks and securities houses have set up strategy departments in the hope of winning business with investors, calculating that a good currency research service will help cement a longer term relationship with potential clients. With little profit left in purely transactional currency trading, foreign exchange departments have become increasingly client focused and research is viewed as a critical marketing tool.

"People are finally realising that in order to have good client relations with big institutions, serious research is highly valued," commented one analyst.

The result has been strategy and research departments which at times have seemed an awkward fit within banks and securities houses – not least since unlike other areas of the organisations their actual value-added is hard to quantify. Departments have come into existence whose sole *raison d'etre* has at times seemed simply to be a public relations office – wining and dining potential clients and acting as pundit on television and in the press.

But this strategy does appear to work. Investment managers are appreciative of strategists' work and will often award business according to the standard of research. At the same time they recognise that the output varies greatly in quality.

"We have a system where we rank houses by a number of attributes, where research is the highest. This system determines how we distribute our business," says Mr Swadling.

What are the qualities that are valued in strategists' work? Clear thinking, acute writing and strong conclusions, it seems, come top of many investment managers' lists.

"A good analyst is someone who is able to take the theory and apply it to the market in a convincing way. There are very few economists who are able to do that and far too few are willing to put their reputations on the line," says Mr Meader.

But as well as good analytical abilities, how seriously a strategist's views are taken will often depend crucially on who he or she works for. If customers think the strategists are seeing big currency flows, they will want to know their views.

"The bigger the house the better the global vision," says

Mr Abberley.

Mike Rosenberg, head of fixed income and currency research at Merrill Lynch in New York and author of an authoritative book on currency forecasting, is critical of what he calls "I-can't-be-wrong forecasts" – forecasts that make no strong predictions.

He thinks currency strategy is inseparable from economic analysis. "A good framework must be based on economics so you can't separate currency strategy from economics," he says.

But finally, however clear or comprehensive the analysis presented by strategists, investors realise that in the end it is their money which is at stake.

They therefore treat most strategists' work, in spite of the big salaries, fast cars and, in some special cases, the guru-like reputations, with a certain healthy scepticism.

"There is nobody we pull out from the pile and say that is a person who gets it right in the long term," says Mr Baverstock. "You finally have to take a punt yourself and decide where to invest your money."